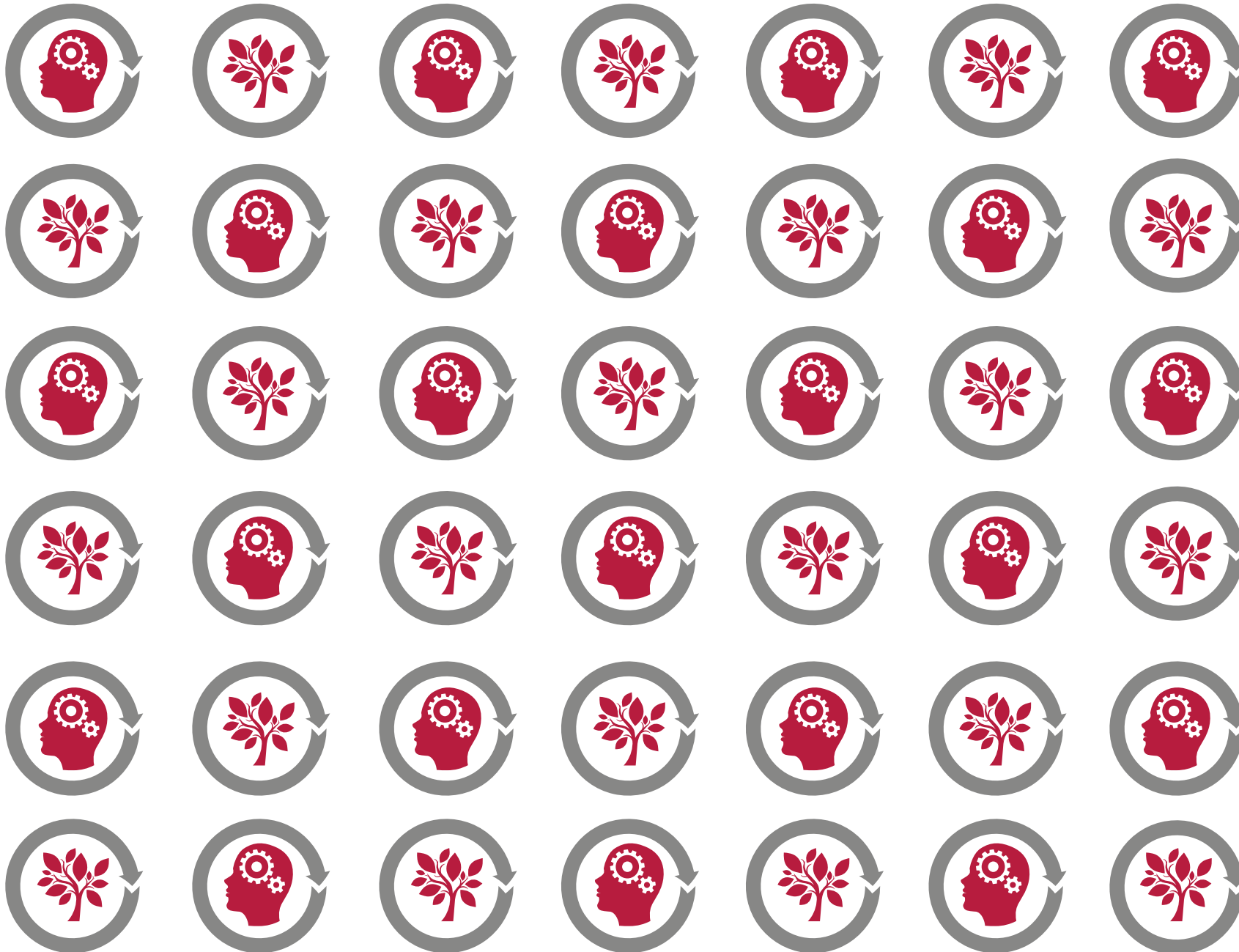


Environmental and sustainability metrics

Briefing for the Environmental Audit Committee



National Audit Office



October 2015



The National Audit Office scrutinises public spending for Parliament and is independent of government. The Comptroller and Auditor General (C&AG), Sir Amyas Morse KCB, is an Officer of the House of Commons and leads the NAO, which employs some 810 people. The C&AG certifies the accounts of all government departments and many other public sector bodies. He has statutory authority to examine and report to Parliament on whether departments and the bodies they fund have used their resources efficiently, effectively, and with economy. Our studies evaluate the value for money of public spending, nationally and locally. Our recommendations and reports on good practice help government improve public services, and our work led to audited savings of £1.15 billion in 2014.

Design & Production by NAO
Communications – DP Ref: 10827-001

© National Audit Office

Summary

This briefing gives a high-level overview of the range of metrics that government uses to assess and report on sustainable development and environmental protection, and how these compare with good practice principles for a performance management framework.

Government uses qualitative and quantitative information to assess and report its progress on sustainable development and environmental protection. In this briefing we use the term metric to cover qualitative information such as longer-form reports that give a narrative view of progress as well as quantitative information such as standalone data sets.

Key findings

Existing metrics and recent developments

The previous government published a wide range of metrics relevant to sustainable development and environmental protection, many of which are expected to continue to be published in some form.

The government is currently developing a new planning and performance framework for departments, replacing Departmental Business Plans. The guidance we have seen so far suggests that environmental metrics will form part of this framework, with departments asked to incorporate metrics related to the sustainability of their estate and business travel ('greening government') and actions and milestones related to manifesto commitments (including those on the environment).

The effectiveness of current arrangements

To be effective metrics need to be part of a wider performance framework that includes clear objectives and mechanisms for action if performance is poor.

Metrics such as the Sustainable Development Indicators and National Wellbeing Indicators are **outcome based** and cover all three pillars of sustainability, giving a valuable picture of overall progress. High-level indicator sets have been developed through consultation to help identify pre-existing data sets, improving the **cost-effectiveness** of data collection. It is also positive that these indicators seek to give a **long-term** as well as a short-term assessment of progress.

There is a patchwork of different indicators used for different purposes – the metrics could be more clearly **aligned** with a hierarchy of objectives and with each other. Different data sets report on different geographical or organisational scales, which do not always align with the scope of the associated objectives.

Not all indicators are linked to **mechanisms for action** if performance is poor.

The **timeliness** of some of the metrics is also mixed. There are legitimate trade-offs to be made between timeliness of reporting and depth of assessment, though in some cases government could do more to explain how it has ensured it has the right balance.

Policy context

The nature and scope of government's environmental and sustainability metrics is informed by the policy context; in particular by the objectives and targets that government has set itself, is subject to under legislation or has agreed to through international conventions and agreements. Many existing environmental and sustainability metrics were established under the previous coalition government and so were informed by that government's ambitions and approach.

Further detail on the policy context, including the programmes set up by the previous government and the international agreements the UK is a signatory to, can be found in the [NAO Short Guide to environmental protection and sustainable development](#).

Coalition government 2010–2015

Objectives included:

- to improve the natural environment of England within a generation (2011 [white paper](#)); and
- to 'mainstream' sustainable development into all aspects of government activity including policies and policy-making, procurement and estates management (2011 [vision](#))

Conservative Party Manifesto 2015

[Manifesto commitments](#) are expected to form the basis of strategic objectives for departments (see [here](#))

Manifesto commitments include:

- to improve the natural environment in England within a generation;
- to protect the green belt; and
- to tackle air pollution

25-year plan for a healthy natural economy

Government has [announced](#) that it will produce this plan. Aims include:

- to identify the most important and threatened environmental assets and prioritise associated investment;
- to focus policies on delivering better environmental outcomes; and
- to improve monitoring and data issues

UK legislation, EU Directives and International Conventions

Targets and requirements include:

- to reduce greenhouse gas emissions to 80% of 1990 levels by 2050 ([UK Climate Change Act 2008](#))
- to meet 17 global Sustainable Development Goals by 2030 ([UN 2030 Agenda for Sustainable Development](#))
- to reduce the proportion of biodegradable municipal waste sent to landfill to 35% of 1995 levels by 2020 ([EU Landfill Directive 1999](#))
- to reduce greenhouse gas emissions by 12.5% from 1990 levels over 2008–2012 ([The Kyoto Protocol, amended Doha 2012](#))
- to generate 15% of energy from renewables by 2020 ([EU Renewable Energy Directive 2009](#))
- to keep levels of airborne pollutants within specified limits ([EU Ambient Air Quality Directive 2008](#))
- to provide for the designation and protection of certain sites and species ([EU Conservation of Habitats and Species Regulations 2010](#))

Departmental responsibilities

Responsibilities for sustainable development and environmental protection cross-cut government, and therefore all government departments have had some responsibility for, or interest in, related metrics published under the previous government. Each department is developing metrics to assess progress on its objectives as part of a new planning and performance framework (see [here](#)).

Notes

- 1 Metrics to monitor progress are being developed by departments with support from the Office for National Statistics, and will be agreed with central government.
- 2 Broadly speaking, environmental issues are a devolved matter. The Welsh Assembly and Northern Ireland Departments have a statutory duty to prepare a sustainable development strategy. Wales has also enacted the [Wellbeing of Future Generations \(Wales\) Act 2015](#), which is intended to make sustainable development the central organising principle for the Welsh government. The Scottish government does not have a statutory duty to prepare a sustainable development strategy, but has committed to sustainable economic growth through its 2015 [economic strategy](#).

Departmental responsibilities related to sustainable development and environmental protection under the coalition government

Department for Environment, Food & Rural Affairs (Defra)

Waste, water, fisheries, flooding, farming, forestry, embedding sustainable development in government, climate change adaptation

Department of Energy & Climate Change (DECC)

Low-carbon energy, carbon budgets, fuel poverty

Cabinet Office

Procurement policies and framework

HM Treasury and HM Revenue & Customs

Environmental taxation, budgets and spending reviews, frameworks for policy appraisal and evaluation

Department for Business, Innovation & Skills

Sustainable economic growth, green finance and research

Department for Communities and Local Government

Planning framework and building regulations

Department for Transport

Low-carbon transport

Department for Work & Pensions and Department of Health

Health and social care

Home Office and Ministry of Justice

Criminal justice

Department for Culture, Media & Sport

Heritage assets and tourism

Department for Education

Education

Foreign & Commonwealth Office, Department for International Development, Ministry of Defence, United Nations

International action on sustainable development

Devolved administrations

Devolved matters – including environmental issues. In Wales the Future Generations Act is intended to make sustainable development the central organising principle for the Welsh government

Existing metrics and recent developments

The previous government published a wide range of metrics relevant to sustainable development and environmental protection (see figure opposite). The [Appendix](#) contains summary factsheets for a selection of these metrics.

Many of these metrics are expected to continue to be published under the current government, though not necessarily all. In particular, metrics on the sustainability of the government's estate, travel and procurement (Greening Government Commitments) and information technology (Greening Government ICT) may not be published in the same form, as the associated targets were to be achieved by March 2015.

The UN has recently developed new Sustainable Development Goals to replace the Millennium Development Goals, which were targets to 2015. The goals were agreed by UN member states in September 2015, and indicators to assess progress are expected to be approved by the UN Statistical Commission in March 2016. Metrics will be developed and made available for monitoring as soon as possible after this. The latest consultation document contains 214 suggested international metrics.

Metrics published under the coalition government

Cross-government

Greening Government Commitments

Greening Government ICT annual reports

Government body annual sustainability reports

Department for Environment, Food & Rural Affairs

UK Biodiversity Indicators

Biodiversity 2020 Indicators

Natural Environment Indicators

Office for National Statistics (ONS)

UK Sustainable Development Indicators

National Wellbeing Indicators

Environmental Accounts

Department of Energy & Climate Change

Annual Emissions Report

Official statistics on GHG emissions (Quarterly)

Advisory bodies

Natural Capital Committee: State of Natural Capital reports

Committee on Climate Change annual progress reports

Other

There is a wide range of other government reports, data and indicators on specialised topics, such as air quality, water quality and recycling. Many of these feed into high-level reporting

Beyond the UK government

EU Sustainable Development Indicators

UN Sustainable Development Indicators

Devolved national governments' reporting

Other external studies and reports

■ Quantitative metrics

■ Qualitative metrics

■ May no longer be published in the same form

■ In development

The government is currently developing a new planning and performance process for departments, replacing Departmental Business Plans.

The new process has two main elements: Single Departmental Plans and Implementation Taskforces.

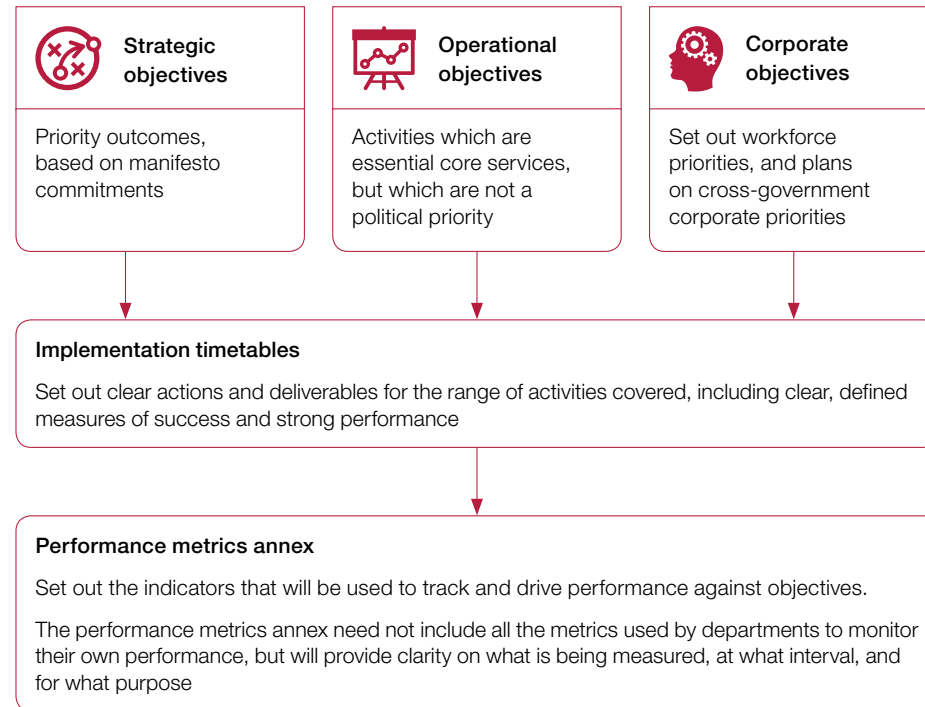
Single Departmental Plans

The framework which departments will use to manage their business and which the department and the centre of government will use to track performance. The diagram opposite illustrates the three types of objectives to be set by departments, and the timetables and metrics which will be agreed to support them.

Development of Single Departmental Plans has been ongoing since July, with initial drafts due to be shared with the Cabinet Office and HM Treasury in early September. The final plans are expected to be published around the time of the Spending Review 2015.

Implementation Taskforces

Implementation Taskforces have been established to tackle the main cross-departmental challenges by bringing together the ministers and officials associated with an issue on a regular basis. There is no dedicated taskforce for sustainable development or environmental protection.



The guidance we have seen so far suggests that environmental metrics will form part of this new planning and performance framework.



Strategic objectives

Specific commitments made in the manifesto are expected to form the basis of strategic objectives in the Single Department Plans. These include:

- *We will protect your countryside, Green Belt and urban environment*
- *We will help you enjoy cleaner air and water*
- *We will build new infrastructure in an environmentally sensitive way*
- *We will create a 'Blue Belt' to protect precious marine habitats*
- *We will protect our planet for our children*

The Conservative Manifesto included a section on '*protecting and enhancing our natural environment*', which repeated the goal of '*being the first generation to leave the natural environment of England in a better state than that in which we found it*'. This commitment was first made in the Natural Environment white paper in 2011.



Corporate objectives

The Single Departmental Plan guidance issued to departments is clear that 'Greening Government' should be included as a corporate objective for all government departments.

This follows a similar form to the Greening Government Commitments, which were set by the coalition government to reduce the environmental impact of government estates and operations. It is unclear if the new framework will include new targets as a continuation from those under the commitments.

Departments are asked to set out actions they are taking on seven areas:

- | | | | | | |
|---|--------------------------|---|-------------------------|---|--------------|
| 1 | greenhouse gas emissions | 4 | paper consumption | 6 | water |
| 2 | domestic flights | 5 | sustainable procurement | 7 | transparency |
| 3 | waste | | | | |

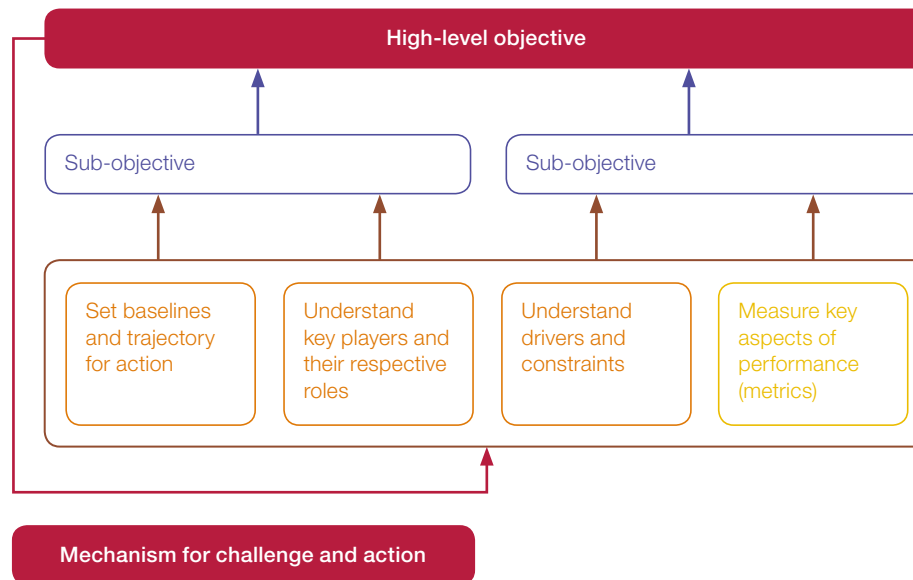
Transparency is not defined in the guidance, but the previous commitments required departments to '*be open and transparent on the steps they are taking to address: climate change adaptation, biodiversity and the natural environment; procurement of food and catering services; sustainable construction; people*'.

The actions taken on Greening Government are expected to be agreed between departments, Defra and the Chancellor of the Duchy of Lancaster (Oliver Letwin) by the end of 2015.

The effectiveness of current arrangements

Best practice

To be effective metrics need to be part of a wider performance framework that includes clear objectives and mechanisms for action if performance is poor.



Note

- This diagram has been developed by the NAO based on findings from our recent reports, combining observed good practice with the recommendations we have made where poor performance management has threatened value for money.

High-level objectives

- Focused on the outcomes to be achieved
- Covering all responsibilities – business as usual and transformational
- Discussed and agreed with all stakeholders

Sub-objectives

- Logical flow from high-level objectives
- May be inputs, outputs, outcomes or enablers
- Balanced across areas and perspectives

Appropriate metrics

- Defined and quantified understanding of gap between current position and desired position; and the trajectory from here to there
- Measures cover all organisations required to act for success, and are based on understanding how they work together
- Measures capture progress on optimising drivers and eliminating or working within constraints where possible
- The framework is cost-effective, with measures drawn from existing business systems

Governance

- Mechanisms for action to be taken if performance is poor, and for holding those responsible to account
- Verification and evaluation of the system

Strengths

Metrics such as the Sustainable Development Indicators and National Wellbeing Indicators are outcome based and cover all three aspects of sustainability (environmental, social and economic), giving a valuable picture of overall progress.

A good performance framework strikes the right balance between measuring outcomes and outputs. Outputs are the direct results from an organisation's activities. Outcomes are the ultimate impact of these activities. Measuring both is important as although changing outcomes is the organisation's ultimate purpose, these are influenced by external factors and may take a long time to emerge.

There are both outcome and output measures for sustainability and environmental protection.

- The Sustainable Development Indicators and National Wellbeing Indicators primarily report on outcomes such as national life expectancy or raw material consumption.
- Output indicators include the area of land covered by agri-environment schemes and the total area of land and sea subject to protection as Sites of Special Scientific Interest or similar, both reported in the UK Biodiversity Indicators.

At the highest level the Sustainable Development Indicators and National Wellbeing Indicators give an overview across all three aspects of sustainability (environmental, social and economic). Other sets focus on sub-objectives for one or more aspects of sustainability, such as the UK Biodiversity Indicators.

High-level indicator sets have been developed through consultation to help identify appropriate pre-existing data sets, improving the cost-effectiveness of collection.

Public consultations and reviews of the proposed indicator sets have helped identify the most relevant pre-existing data sets, for example the consultation held for the Sustainable Development Indicators in 2012 and the oversight given by the UK Biodiversity Indicators forum and steering group. Most of the measures in the high-level indicator sets have been collected and published separately by the responsible departments or by other bodies such as charities. This improves the cost-effectiveness of collection provided the measures continue to have a purpose beyond their contribution to the indicator set.

It is also positive that these indicators seek to give a long-term as well as a short-term assessment of progress.

The Sustainable Development Indicators, the National Wellbeing Indicators, and the UK Biodiversity Indicators all present both a long-term and a short-term view. The short-term view is typically an assessment of movement within the last three to five years, whilst the long-term view is from the earliest date data is available for. The long-term view is limited in some areas where data are not available sufficiently far into the past. For example, the Sustainable Development Indicators are able to present an assessment of progress for 71% of measures over the short term, but only 58% over the long term.

Alignment

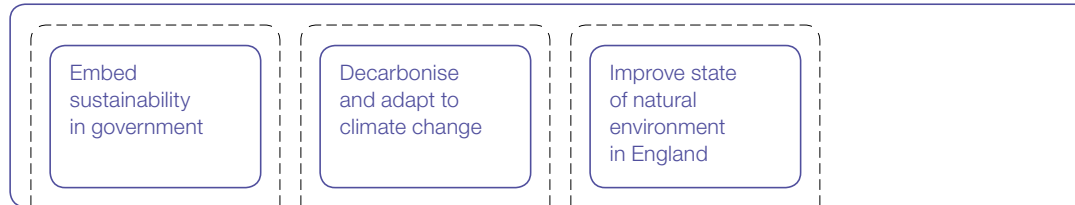
There is a patchwork of different indicators used for different purposes. Metrics could be more clearly **aligned** with a hierarchy of objectives and with each other.

The diagram opposite illustrates some of the previous government's overarching objectives related to sustainable development and environmental protection and how these map to related metrics. The text to the right of the diagram lists some areas of existing and potential misalignment.

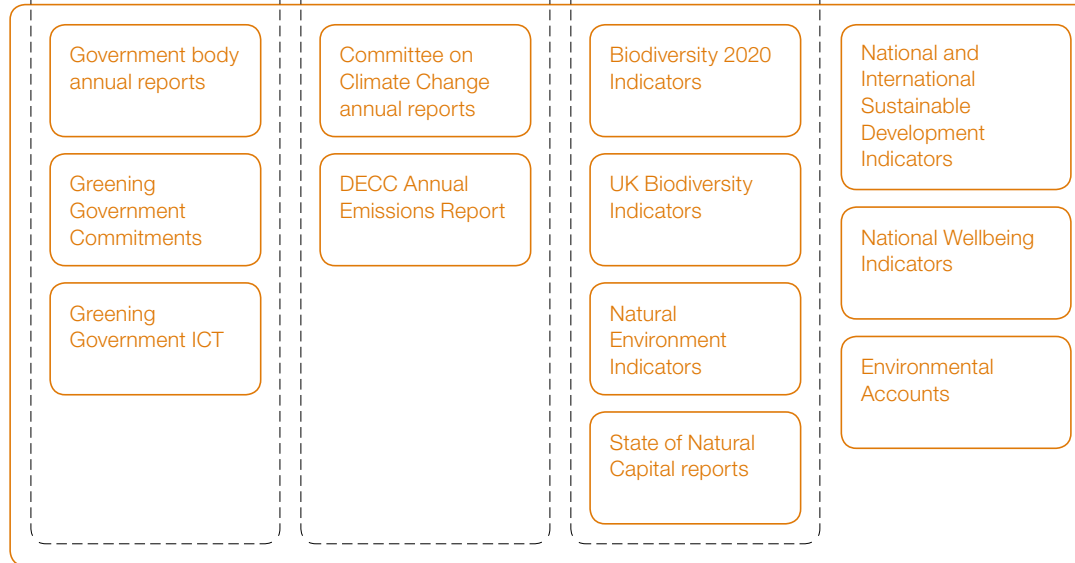
High-level objective



Sub-objectives



Metrics



Articulating high-level objectives

The previous government set out its high-level objectives for sustainable development in the form of a vision for sustainable development. The new government has not yet indicated whether it will publish something similar.

Sustainability is by its nature a long-term issue. Clear long-term targets exist for some areas such as climate change (with a 2050 target for greenhouse gas emissions reductions), but not for all.

Alignment between metrics

Government reporting on summary metrics does not always act as a gateway to the wider range of information that is available. For example, departmental sustainability reporting rarely refers to metrics beyond the Greening Government Commitments, and the UK Sustainable Development Indicators do not direct readers to the biodiversity indicators for greater detail on related issues. The latter is especially important as the Sustainable Development Indicators measure progress on wildlife by reference to bird populations only, whereas the biodiversity metrics have further detail available.

Alignment *continued*

2 of 2

Different data sets report on different geographical or organisational scales, which do not always align with the scope of the associated objectives.

The UK Sustainable Development Indicators aim to monitor UK-wide progress but less than two-thirds of measures (59%) report at the UK level. Only 3 indicators have data presented at both the UK and the English level.

The National Wellbeing Indicators also aim to measure UK-wide progress – most but not all (83%) of measures report at the UK level.

Biodiversity 2020 is a strategy for England's natural environment, however only 60% of indicators report at this level, with the rest presenting UK-level statistics.

The previous government's 'Greening Government Commitments' related to its objective to 'green' its activities. However, these did not give a complete picture of the environmental performance of the public sector estate, as they excluded, for example, hospitals and schools.

Geographical scope of major indicator sets

Government estate and operations	England/ England and Wales	UK or GB
	Sustainable Development Indicators	
	National Wellbeing Indicators	
	Biodiversity 2020	
Greening Government Commitment reporting		
	Natural Environment Indicators	
	State of Natural Capital reports	
		UK Biodiversity Indicators
		Committee on Climate Change annual progress reports
		Official statistics on GHG Emissions
		Environmental Accounts

Mechanisms for action

Not all indicators are linked to **mechanisms for action** if performance is poor.

Good examples of mechanisms for action include:

Decarbonisation

The Climate Change Act requires regular, formal review of progress against decarbonisation targets at a senior level in government, and established a process to stimulate action if performance is falling behind:

- The relevant Secretary of State is required to report to Parliament on performance against interim targets for emissions reductions (carbon budgets).
- An independent organisation, the Committee on Climate Change, reviews progress against future carbon budgets on an annual basis and lays its reports before Parliament.
- Government is required to respond to recommendations made by the Committee on Climate Change.

Greening Government Commitments

A cabinet sub-committee, co-chaired by the Minister for Government Policy and the Secretary of State for Environment, Food & Rural Affairs, reviewed performance on these targets. This arrangement has not continued under the current government.

Each report on progress towards the commitments included a ministerial foreword from the chairs of this sub-committee, and contain commentary indicating where departments have failed to meet the commitments and what actions are being taken as a result.

There are no similar formal mechanisms for government to review and respond to performance against, for example, the **Sustainable Development Indicators** or **National Wellbeing Indicators**. Individual indicators are derived from other data sources so in some cases, such as carbon emissions, government is held to account on a lower level, but this does not appear to be universal.

Government sustainability reports do not give the impression that departments have been using these indicators to review their own performance, and inform decisions about the need for new policies or action to address poor performance. Our February 2015 assessment of departmental reporting found that no departments mentioned the Sustainable Development Indicators in their annual reports.

External scrutiny such as that provided by the Environmental Audit Committee is valuable, but it is important that government also has its own arrangements for ensuring results feed back into decision-making.

Timeliness

The **timeliness** of some of the metrics is also mixed. There are legitimate trade-offs to be made between timeliness of reporting and depth of assessment, though government could do more to explain how it has ensured it has the right balance.

Some of the information in the Sustainable Development Indicators is out of date, with some measures in the latest set relating as far back as 2010-11, as the pie charts illustrate.

The timeliness of the National Wellbeing Indicators is also limited in places. For example, the European Quality of Life survey used for some indicators reports on a 4-year cycle, with data available for 2003, 2007 and 2011 only.

Some metrics face data gaps due to sources of data being discontinued or having not been developed. For example, Biodiversity 2020 reports that its 2 indicators for plant diversity were originally based on a data set running from 1990, but that this had not been updated since 2007, and further updates are unlikely. As a result, the indicators have been reclassified as 'under development' and a new data source is being sought. Other indicators with data gaps include the Sustainable Development Indicators for UK biodiversity impacts overseas and the Biodiversity 2020 indicator for Habitat Connectivity, both of which are yet to be developed.

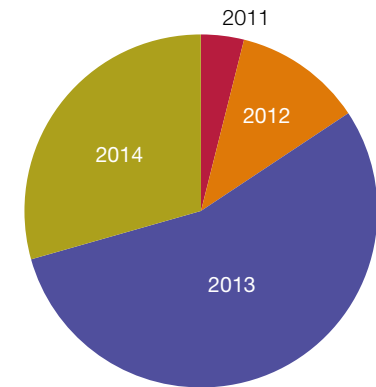
Information on progress against the 'Greening Government' metrics has been reasonably timely. All departments have included this information in their annual reports, most of which are published in the July after the financial year to which they relate. The cross-government report on progress against the Greening Government Commitments has then been published later in the year, usually in December.

There may be good reasons for the age of some of the data in metrics. Any performance framework must find a balance between timely reporting and the depth/rigour of assessment. A highly detailed and comprehensive assessment will take longer to complete, and it may be too costly to run large surveys on a more frequent basis.

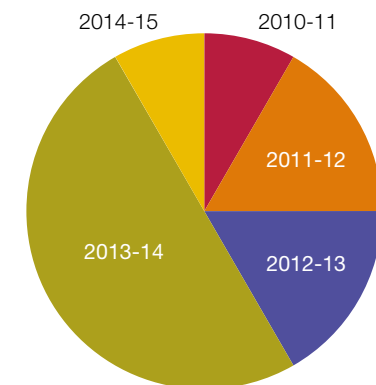
Year of most recent data

(Sustainable Development Indicators)

Calendar year (51 measures)



Financial year (12 measures)



A further 3 measures reported data as a range of years, ie 2009–2011 or 2009–2012.

Appendix

More detail on selected environmental and sustainability metrics

This Appendix contains an overview of a selection of metrics, with a high-level summary of key facts for the major current metrics.

The Appendix also includes detailed factsheets for the Sustainable Development Indicators, the National Wellbeing Indicators, the Environmental Accounts, the Greening Government Commitments, and the UN Sustainable Development Indicators. Where appropriate measures for these metrics are colour-coded to indicate their relation to the three pillars of sustainability, as follows:

Environmental

Economic

Social

Overview of a selection of metrics

Metric	Number of indicators	Geographical coverage	Time coverage of assessment	Frequency of publication	Quality assurance
Sustainable Development Indicators	12 headline and 23 supplementary indicators	UK where available, otherwise England	Long term: 10 years or more Short term: last 5 years	Annual (July)	Designated as National Statistics
National Wellbeing Indicators	41 headline indicators, split across 10 domains of national wellbeing	UK where available, otherwise England	Comparison with the previous year and assessment of change over 3-year period	Biannual (March and September)	Collected by Office for National Statistics (ONS) from a variety of sources, not designated as National Statistics
Environmental Accounts	Reporting on 12 topics, each including several data sets	Economic sphere of the UK	Trends over time from 1990	Annual (July), with most data relating to 2 years before	National Statistics, with the exception of the statistics on Natural Capital
UK Biodiversity Indicators	24 indicators, split across 5 strategic goals	UK	Long term: 10 years or more Short term: last 5 years	Annual (December)	National Statistics compendium. Two measures are also National Statistics in their own right
Biodiversity 2020	24 indicators	England where available, otherwise UK	Long term: 10 years or more Short term: last 5 years	Annual (December)	National Statistics compendium. Four measures are also National Statistics in their own right
Natural Environment Indicators	13 indicators	England	Long term: 10 years or more Short term: last 5 years	Annual (July)	Main publication is not noted as being National Statistics, however 4 measures are National Statistics in their own right
State of Natural Capital report	None: progress report without separate indicators	England	Reports on current state only	Published annually under the coalition government	N/A – no presentation of detailed data

Metric	Number of indicators	Geographical coverage	Time coverage of assessment	Frequency of publication	Quality assurance
Greening Government Commitments	7 targets for government to report against	Government estate	Progress towards a 2015 target against a 2009-10 baseline	Annual (December)	Data collected and processed by individual departments, with consultants from Carbon Smart providing additional quality assurance and in-depth reviews to ensure data consistency
Greening Government ICT	Assessment against a maturity model, a roadmap and of footprint reduction	Central government departments	Progress against 4-year strategy established in 2011 (now extended for a further year)	Published annually under the coalition government	Data collected and processed by individual departments for submission to the Green ICT Delivery Unit. Departments are paired for peer reviews
DECC Annual Emissions report	Calculation of UK net Carbon Account, based on UK emissions	UK	Progress measured against either 1990 or 1995 as a base year and against the previous year	Annual (March) but containing data from 2 years before	No direct indication of quality, but based on UK Greenhouse Gas Emissions Statistical release, which are National Statistics
UK Greenhouse Gas statistics	Emissions reported for 9 sectors of the UK economy	UK	Presents annual data, with prior years (back to 1990) as comparison	Annual (February/March)	Designated as National Statistics
Committee on Climate Change annual progress reports	None: summary of progress in reducing emissions and preparing for climate change	UK	Reports current position, with prior years as comparison but not analysed	Annual (June)	No direct indication of quality, but some data are drawn from sources such as the UK Greenhouse Gas Emissions Statistical release, which are National Statistics
EU Sustainable Development Indicators	12 headline indicators across 10 strategic themes	EU	Long term: since 2000 Short term: last 5 years	Every 2 years	Produced by Eurostat (EU statistical office)
UN Millennium Development Goal reporting	Reporting against 8 Millennium Development Goals	Global	Reports current position. Targets are set with 1990 as a baseline	Annual. The MDGs have been replaced by new Sustainable Development Goals	Collection coordinated by United Nations Statistics Division and drawn from national statistics provided by governments

Sustainable Development Indicators

Overview

A collection of indicators, primarily compiled from existing data sources, intended to provide an overview of progress towards a sustainable economy, society and environment. Indicators are listed on the next page, including a list of the measures used to assess the headline indicators and an indication of the timespan and geographical coverage of these measures.

Responsible body	Introduced by Department for Environment, Food & Rural Affairs (Defra) in 2001, with the indicators being revised and reduced in number in July 2013. Defra is the policy lead, but since 2014 the Office for National Statistics (ONS) has had responsibility for updating and publishing the indicators.
Frequency and timeliness of reports	Published annually in July with data as available at 30 June. However, the timeframe covered by the metrics varies, as not all data sources used are updated annually, and others have a delay in reporting. In the most recent release 8 out of 66 measures had not been updated since July 2014 (12%) and a further 28 (42%) had 2013 or earlier as the most recent period for which data were available.
Geographical coverage	Where possible, data are published for the whole UK. Some 59% of measures used by the indicators had data available at the UK level. The remaining indicators had data available for England (and sometimes Wales) only. Only 3 measures present data at both the UK and the country level in the SDI report, although country-level data are available for some UK metrics in the underlying data sets.
Comprehensiveness	The indicators cover all three pillars of sustainability, however the measures used do not always provide a comprehensive view of an issue. For example, the indicator for wildlife only makes use of data relating to bird populations, and the indicator for 'UK biodiversity impacts overseas' is not reported on due to measures having not yet been developed.
Data source	Data are not specifically collected for the indicators, instead being drawn from other sources such as other ONS statistics (12 measures), Defra data (9 measures) and Department of Energy & Climate Change (DECC) data (6 measures). There is overlap with other indicator sets, such as the National Wellbeing Indicators; work to align these to ensure they use the same data is ongoing.
Approach	<p>Progress is assessed against 12 headline and 23 supplementary indicators, which are assessed through a total of 66 measures. There are no set targets: progress is reported as a comparison to the position over the short term (5 years) and long term (10+ years). Each measure is reported as improving or deteriorating when movement from the comparison is statistically significant. Where movement is not statistically significant, the indicator is assessed as 'no change'. Some measures, such as GDP, are provided for context only, whereas others (such as land use) have no clear favourable direction of travel: these are recorded as 'not assessed'.</p> <p>Comparison between the two most recent years is also made, although this period is seen as too short for a meaningful assessment and is given simply as an acknowledgement of very recent trends, and as a possible early sign of emerging trends.</p>
Notable publications	<p>Sustainable Development Indicators July 2015 – the latest report.</p> <p>Sustainable Development Indicators Consultation – 2012 consultation leading to the current set of indicators.</p> <p>Measuring Well-being and Sustainable Development – 2012 EAC report on the new indicators which criticises the lack of targets and suggests presenting impacts on people's lives as a range rather than an average.</p>

Overview of a selection of metrics

Sustainable Development Indicators

National Wellbeing Indicators

Environmental Accounts

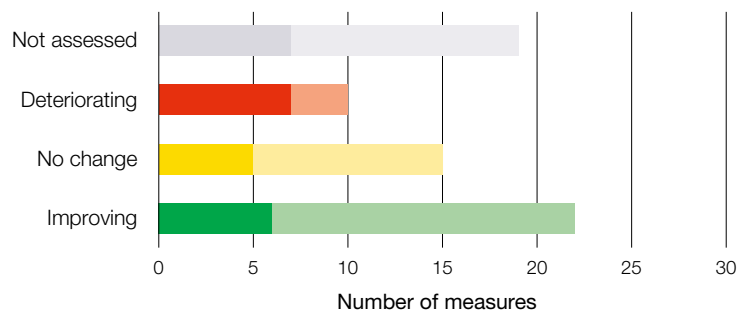
Greening Government Commitments

UN Sustainable Development Indicators

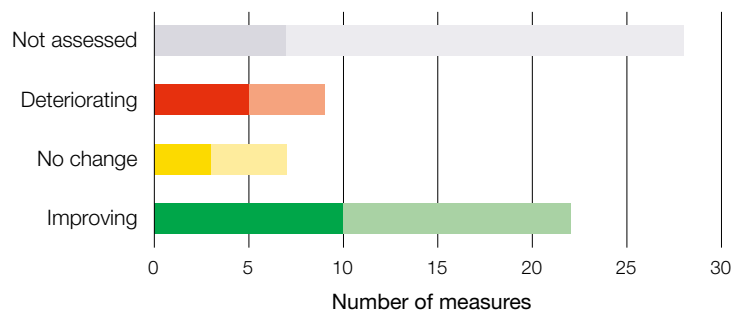
Sustainable Development Indicators – Indicators and measures

Headline indicators	Headline measures	Supplementary indicators
■ Economic prosperity	GDP, GDP per head, Median Income (UK, 1997–2014)	Population demographics; Debt; Pension provision; Physical infrastructure; Research and development; Environmental goods and services sector
■ Long-term unemployment	Proportion of adults unemployed over 12 months (UK, 1992–2014)	
■ Poverty	Proportion of children in relative low income households, Proportion of children in absolute low income households (UK, 1994–2014)	
■ Knowledge and skills	Human Capital Stock, Human Capital per head (UK, 2004–2013)	Avoidable mortality; Obesity; Lifestyles; Infant health; Air quality; Noise; and Fuel poverty
■ Healthy life expectancy	Life expectancy at birth, Healthy life expectancy (UK, 2000–2011)	
■ Social capital	Civic participation at least once a year (England, 2001–2014), Volunteering at least once a year (UK, 2010–2013), Proportion of people who have a partner, family member or friend to rely on if they have a serious problem (England, 2010–11 only) Percentage of people who agreed or agreed strongly that they felt they belonged to their neighbourhood (UK, 1998–2012)	
■ Social mobility in adulthood	Percentage of 16–65 year olds who are in paid employment who are in managerial or professional positions by social background using parents' occupational group (UK, 1991–2012)	
■ Housing provision	Trends in net additional dwellings (England, 2000–2014)	UK CO ₂ Emissions by sector; Energy from renewable sources; Housing energy efficiency; Waste disposal and recycling; Land use; Origins of food consumed in the UK; Water quality; Sustainable fisheries; Priority species and habitats; and UK biodiversity impacts overseas
■ Greenhouse gas emissions	Greenhouse gas emissions (UK, 1990–2014), Greenhouse gas emissions associated with UK consumption (UK, 1997–2012)	
■ Natural resource use	Raw material consumption of construction and non-construction materials (UK, 2000–2011)	
■ Wildlife	Populations of wild birds (seabirds, woodland birds, water and wetland birds, farmland birds) (UK, 1970–2013)	
■ Water use	Estimates of direct actual abstractions from non-tidal surface waters and ground-waters (England and Wales, 1991–2013)	

Results of short-term assessments



Results of long-term assessments



These charts indicate the results of the latest assessment (July 2015) against the indicators by showing the number of measures recorded as Improving, Deteriorating, No Change or Not Assessed. Measures for headline indicators are in a darker shade to the left of each bar.

National Wellbeing Indicators

Overview

Indicators intended to supplement the Sustainable Development Indicators by providing an assessment of wellbeing, with measures based on the results of a national study into what matters to members of the public.

Responsible body	Developed by ONS as part of the 'Measuring National Well-being' programme, begun in November 2010.
Frequency and timeliness of reports	Updated twice yearly, in March and September. Not all measures are updated this regularly, as they rely on the update frequency of the underlying data sources.
Geographical coverage	Data are published for the whole UK where possible, with 83% of metrics reporting at this level. In some cases metrics are also analysable on a regional basis. ONS also produces reports comparing the UK to other members of the Organisation for Economic Co-operation and Development (OECD) and the EU.
Comprehensiveness	The National Wellbeing Indicators cover all three pillars of sustainability, but have a focus on social issues. The measures were selected based on a consultation exercise which took place in early 2011, reporting in July of that year. The aim was to "develop and publish an accepted and trusted set of National Statistics which help people understand and monitor wellbeing"
Data source	Metrics were developed by collating potential measures from other sources (such as those used by Defra or already collected by the ONS), then evaluating them to determine whether they were robust, internationally comparable, available for a past time series of reasonable length, relatively up to date, and likely to be available in the future. The majority (59%) of measures are derived from national surveys such as the Personal Well-being Annual Population Survey and the UK Household Longitudinal Survey, as well as from other government and non-government bodies. Because of this, the indicators can only be updated once a survey has been completed, which may not be on an annual basis.
Approach	The National Wellbeing Indicators consist of 41 headline measures divided into 10 domains. The majority of measures (78%) are subjective, with results reported as percentages or similar. The March 2015 report is the first to assess progress against the measures, indicating progress as 'Improved', 'Deteriorated' or 'No Change' on a 1-year and 3-year basis where sufficient data are available.
Notable publications	<p>Measuring National Wellbeing: Life in the UK – the most recent release of indicators (March 2015).</p> <p>Measuring National Wellbeing: International Comparisons – how the UK compares with 34 other countries.</p> <p>Interactive wheel of measures – Interactive summary of results.</p> <p>National Statistician's Reflections on the National Debate on Measuring National Wellbeing – July 2011 report summarising contributions to the debate and explaining how they will be used to develop measures of national wellbeing.</p>

Overview of a selection of metrics

Sustainable Development Indicators

National Wellbeing Indicators

Environmental Accounts

Greening Government Commitments

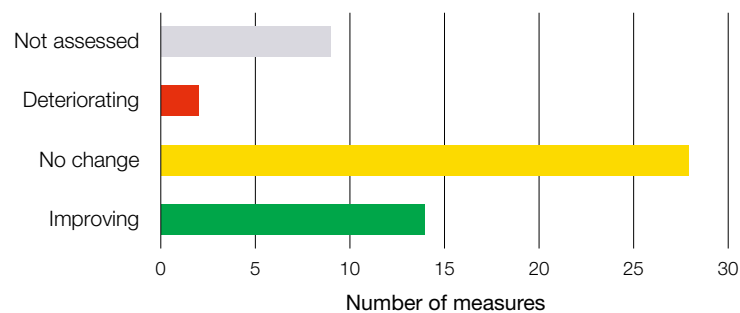
UN Sustainable Development Indicators

National Wellbeing Indicators – Indicators and measures

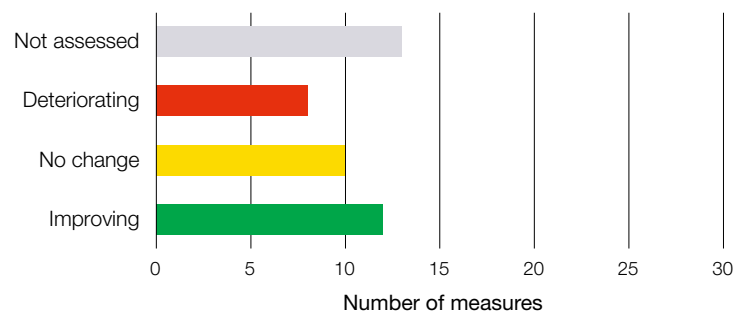
2 of 2

Domain	Measures
■ Economy	Real net national disposable income per head; UK public sector net debt as a percentage of Gross Domestic Product; Inflation rate (as measured by the Consumer Price Index).
■ Personal finance	Individuals in households with less than 60% of median income after housing costs; Median wealth per household, including pension wealth; Real median household income; Percentage somewhat, mostly or completely satisfied with the income of their household; Percentage report finding it quite or very difficult to get by financially.
■ Personal wellbeing	Percentage with very high rating of satisfaction with their lives overall; Percentage with very high rating of how worthwhile the things they do are; Percentage who rated their happiness yesterday as very high; who rated their anxiety yesterday as very low; Population mental well-being.
■ What we do	Unemployment rate; Percentage somewhat, mostly or completely satisfied with their job; Percentage somewhat, mostly or completely satisfied with their amount of leisure time; Percentage volunteered more than once in the last 12 months; Percentage engaged with/participated in arts or cultural activity at least 3 times in last year; Adult participation in 30 mins of moderate intensity sport, once per week.
■ Education and skills	Human capital – the value of individuals' skills, knowledge and competences in labour market; Percentage with 5 or more GCSEs A* to C including English and Maths; Percentage of UK residents aged 16 to 64 with no qualifications.
■ Our relationships	Average rating of satisfaction with family life; Average rating of satisfaction with social life; Percentage who have a spouse, family member or friend to rely on if they have a serious problem.
■ Governance	Voter turnout in UK General Elections; Percentage who who have trust in national government.
■ Where we live	Crimes against the person (per 1,000 adults); Percentage who felt fairly/very safe walking alone after dark (men/women); Percentage who accessed natural environment at least once a week in the last 12 months; Percentage who agreed/agreed strongly they felt they belonged to their neighbourhood; Households with good transport access to key services or work (2011 = 100); and Percentage fairly/very satisfied with their accommodation.
■ Health	Healthy life expectancy at birth (male/female); Percentage who reported a long-term illness and a disability; Percentage somewhat, mostly or completely satisfied with their health; and Percentage who indicated some evidence of depression or anxiety.
■ Natural environment	Total greenhouse gas emissions (millions of tonnes); Protected areas in the UK (millions of hectares); Energy consumed within the UK from renewable sources; and Percentage household waste that is recycled.

Results of 1-year assessments



Results of 3-year assessments



These charts indicate the results of the latest assessment (March 2015) against the indicators by showing the number of measures recorded as Improving, Deteriorating, No Change or Not Assessed.

Environmental Accounts

Overview

The UK Environmental Accounts are satellite accounts to the main UK National Accounts, and are intended to facilitate environmental-economic analyses, providing statistics on the environmental impact of UK economic activity.

Responsible body	Collected by the Office for National Statistics in accordance with the System of Environmental Economic Accounting (SEEA), which is set by the UN. ONS is currently working with Defra to extend the Environmental Accounts to cover the value of natural capital, with a target date of 2020. The Natural Capital Committee provides an advisory role.
Frequency and timeliness of reports	Published annually in July, although most data are for activity 2 years before (that is, the 2015 report covers activity in 2013).
Geographical coverage	Follows the same coverage as the National Accounts, which describe all economic activity within the economic territory of the UK, both in the domestic market and externally. This allows comparison with indicators of the national economy such as GDP.
Comprehensiveness	Focus on issues of the environment and the economy, and how they interact. Comprehensiveness has been extended through experimental accounts for natural capital, so as to better recognise the range of non-economic benefits that the country's natural resources provide. These are not accounted for in standard measures such as GDP, so are not considered in monitoring and risk becoming degraded over time.
Data source	Primary data source produced and released as National Statistics, requiring a high level of professional standards and quality.
Notable publications	<p>UK Environmental Accounts 2015 – The most recent release of data (July 2015).</p> <p>Accounting for the Value of Nature in the UK. ONS roadmap for the production of Natural Capital accounts for the UK.</p> <p>Principles of ecosystem accounting. Paper by Defra and ONS setting basic principles for natural capital accounting at the ecosystem level, rather than at the national level used by the government accounts.</p>

Areas of reporting

		 	 Waste	 	
Fuel use	Energy consumption	Environmental goods and services sector		Greenhouse gas emissions intensity	Environmental protection expenditure
					 
Energy intensity	Atmospheric emissions	Water use	Environmental taxes	Material flows	Natural capital (experimental)

Greening Government Commitments

Overview

The Greening Government Commitments (GGC) were introduced by the previous government in 2011 as a set of goals for departments to reduce the environmental impact of their operations. Reporting against the 2010–15 framework has been extended for one year into 2015–16 to ensure continuity while the government considers arrangements to 2020.

Responsible body	Each of the bodies covered by the commitments is responsible for its own data, which is published as part of their annual financial reporting. This is collated into an annual report by Defra.
Frequency and timeliness of reports	Whole-of-government report published on an annual basis, on average 10 months after the end of the financial year in question. Data for individual bodies are available prior to this through publication in annual reports.
Coverage	The GGC targets apply to 22 central government departments and non-ministerial government departments in the UK and some of their arm's-length bodies (ALBs). The GGC report contains an annex detailing the bodies which are in scope: notably, this only includes central government activities, rather than all activities which may be seen as part of government. For example, hospitals and schools, both major elements of their respective department's activities, are excluded.
Data source	All departments are responsible for the collection and processing of their own data, however external consultants provide additional quality assurance and in-depth reviews to ensure data consistency.
Approach	<p>The Greening Government Commitments were set by the coalition government as a means of monitoring its February 2011 commitment to embed sustainability in all it does. The commitments outlined high-level outcomes for reducing greenhouse gas emissions, waste, water consumption and for procuring more sustainably, with targets for 2015 set against a 2009-10 baseline.</p> <p>Data were submitted by departments on a quarterly basis, and some chose to publish these on their website. The GGC annual report presents results for the whole of government, indicating both the overall progress being made and the number of bodies meeting the targets.</p>
Notable publications	<p>Mainstreaming Sustainable Development – document setting out the coalition government's vision for sustainability.</p> <p>Greening Government Commitment Targets – the targets initially set by government.</p> <p>Guidance on measurement and reporting – guidance produced by Cabinet Office to assist departments in preparing their GGC data.</p> <p>Embedding Sustainable Development: an update – June 2013 comments by the EAC on the Greening Government Commitments, welcoming their introduction and recommending the extension of those targets which seemed readily achievable.</p> <p>Greening Government Commitments 2013-14 annual report – the most recent annual report, published February 2015.</p>

Greening Government Commitments – Targets and latest results

	Target	Overall progress against baseline in 2013-14	Estimated savings achieved (2013-14 against 2009-10)	Departments meeting or exceeding targets (out of 22)
Greenhouse gases	By 2015, reduce GHG emissions by 25% compared to 2009-10 baseline from the whole estate and UK business-related transport	20% reduction for government as a whole, an improvement of 6% from 2012-13	£75m (energy savings)	16 (2012-13: 11), with all reporting reductions against baseline
Domestic flights	By 2015, cut domestic business travel flights by 20% compared to 2009-10 baseline	18% reduction across government as a whole, this is less than in 2013-14 (30%) or 2011-12 (36%)	Not calculated	10 (2012-13: 11) 8 exceeding baseline
Waste	By 2015, reduce the amount of waste we generate by 25% compared to 2009-10 baseline	22% reduction for government as a whole, an improvement of 7% from 2012-13	£11.5m (waste disposal costs)	13 (2012-13: 8) 2 exceeding baseline
Paper consumption	Cut paper use by 10% in 2011-12	31% reduction for government as a whole, an improvement of 5% from 2012-13	Not calculated	20 (2012-13: 21) 1 exceeding baseline
Water consumption	By 2015, reduce water consumption from 2009-10 baseline and report on office water use against best practice benchmarks	9% reduction across government as a whole, maintaining the level achieved in 2012-13	£7.9m (water supply and sewerage charges)	6 met best practice benchmarks (2012-13: 5) 2 exceeding baseline
Procurement	Ensure government buys more sustainable and efficient products and engages its suppliers to understand and reduce the impacts of its supply chain	Not assessed by a single metric. Most departments have in place or are developing structures and processes to support sustainable procurement. Notable areas of good practice include procurement of office ICT and office furniture		
Transparency	Departments will be open and transparent on the steps they are taking to address 5 specified areas	Not assessed by a single metric. The transparency commitments are climate change adaptation; biodiversity and the natural environment; procurement of food and catering services; sustainable construction; and people. Twenty departments published information against some or all transparency commitments in their annual report and accounts, however only 8 departments covered all 5 transparency commitments		

UN Sustainable Development Indicators

Overview

Indicators are currently under development to support the 17 Sustainable Development Goals and 169 targets adopted by the UN in September 2015. The indicators are expected to be agreed by the UN Statistical Commission in early 2016, with metrics to be developed and made available for monitoring as soon as possible after this.

Background

The Sustainable Development Goals replace the Millennium Development Goals, which had been established in 2001 with a target date of 2015. Indicators and associated monitoring systems to support the Sustainable Development Goals are expected to be agreed in early 2016.

Indicators are being considered alongside the new goals, so as to allow them to be developed and collected as early as possible. This is in response to concerns about the significant time lag in Millennium Development Goal reporting (often 3 or more years), that data was often incomplete and of poor quality, and that some key development priorities lacked metrics.

Frequency and timeliness of reports

The latest recommendation is for an annual report on global indicators, with the data included being either collected during the preceding year or based on robust estimations. This is intended to allow the Sustainable Development Goals to be used to influence upcoming budgets.

UK involvement

The UK currently holds the chairmanship of the UN Statistical Commission, and is a member of the Inter-agency and Expert Group on the Sustainable Development Goal Indicators (IAEG-SDGs). This expert group is responsible for developing the indicators for presentation to the Statistical Commission, and for providing technical support for the implementation of the approved indicator and monitoring framework.

The Office for National Statistics is involved in developing the indicators to be used for the Sustainable Development Goals. It is currently unclear how the UK will be required to report into the international framework, and whether any additional indicator data will need to be collected to do so.

Proposed indicators

The UN Statistical Commission is collating global indicators from international agencies and entities for consideration by IAEG-SDGs. The latest (as at September 2015) consultation document contains 214 suggested international indicators. These have been evaluated according to a 3-tier system of development, with tier 1 being metrics for which an established methodology exists and data are already widely available and tier 3 being metrics for which an internationally agreed methodology has not yet been developed.

Key documents

[Transforming our world: the 2030 Agenda for Sustainable Development](#) – September 2015 declaration of the Sustainable Development Goals.

[Indicators and a Monitoring Framework for the Sustainable Development Goals](#) – report by the Sustainable Development Solutions Network, recommending that the UN adopt no more than 100 international indicators

[List of indicator proposals \(11 August 2015\)](#) – latest set of proposed indicators (United Nations Statistics Division)

UN Sustainable Development Indicators – Goals

The sustainable development goals agreed at Rio+20 are set out to the right. The goals were finalised at the 'Transforming the world: Realizing the post-2015 Development Agenda' SDG Summit in September 2015. Metrics are needed to monitor these on the global level: a proposed set of indicators is expected to be approved by the UN Statistical Commission in March 2016, so as to be developed and made available as soon as possible after this.

Sustainable Development Goals

Goal 1	End poverty in all its forms everywhere
Goal 2	End hunger, achieve food security and improved nutrition and promote sustainable agriculture
Goal 3	Ensure healthy lives and promote wellbeing for all at all ages
Goal 4	Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
Goal 5	Achieve gender equality and empower all women and girls
Goal 6	Ensure availability and sustainable management of water and sanitation for all
Goal 7	Ensure access to affordable, reliable, sustainable and modern energy for all
Goal 8	Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all
Goal 9	Build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation
Goal 10	Reduce inequality within and among countries
Goal 11	Make cities and human settlements inclusive, safe, resilient and sustainable
Goal 12	Ensure sustainable consumption and production patterns
Goal 13	Take urgent action to combat climate change and its impacts
Goal 14	Conserve and sustainably use the oceans, seas and marine resources for sustainable development
Goal 15	Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss
Goal 16	Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels
Goal 17	Strengthen the means of implementation and revitalise the global partnership for sustainable development

The goals are supported by 169 targets