



National Audit Office

Report

by the Comptroller
and Auditor General

Department for Environment, Food & Rural Affairs

Environmental metrics: government's approach to monitoring the state of the natural environment

Key facts

One-third 161

proportion of the published data for one key set of environmental metrics that is three or more years old

number of current environmental reporting obligations to European bodies that may no longer be reported after EU exit

Four main cross-cutting sets of environmental metrics that government currently reports against or monitors

Two new sets of metrics which government plans to use to assess its progress in improving the state of the natural environment, covering 230 actions, and 65 anticipated outcomes

Summary

1 It is essential for government to have an effective system for measuring its environmental performance, in order to:

- understand whether it is on track to meet its long-term environmental goals, including those for air quality, carbon emissions and the natural environment;
- assess the effectiveness of new and existing policy interventions; and
- fulfil its international obligations on environmental reporting.

Robust data on performance are also essential for Parliament and the public to be able to hold government to account on how it meets its obligations and spends taxpayers' money.¹

2 A good system of environmental metrics is particularly important now, because government has just published its 25-Year Environment Plan. This sets out its ambition to improve the natural environment in England within a generation. Meeting this ambition will require significant and coordinated action across a range of different sectors of the economy, and in some areas, it will involve reversing long-term trends of environmental decline. Strong environmental monitoring is also important in the context of the UK's exit from the European Union (EU), as it will enable stakeholders, Parliament and government itself to understand the government's performance against its commitment that leaving the EU will not mean environmental protections are diluted.

3 Government currently collects and reports against a wide range of environmental performance metrics. Key cross-cutting indicator sets include reporting against:

- the United Nations (UN) Sustainable Development Goals (the Goals);
- international conventions on climate change and biodiversity;
- the national Environmental Accounts, a set of satellite accounts to the main UK National Accounts, which measure the contribution of the environment to society, and the impact of economic activity on the environment; and
- the Department for Environment, Food & Rural Affairs' (Defra) internal 'Defra group scorecard'.

Separate policy areas will also have more detailed metrics, for internal government use, or for external reporting, including reporting related to EU directives.

¹ Comptroller and Auditor General, *Accountability to Parliament for taxpayers' money*, Session 2015-16, HC 849, National Audit Office, February 2016.

4 This report sets out our expectations of good practice for an effective system of performance metrics based on our experience of reviewing government approaches to managing performance (Part One). It also examines the government's current environmental metrics (Part Two) and its plans for developing new metrics (Part Three). We focus on the metrics that relate to England or are UK-wide.

5 We prepared this report in response to a request from the Environmental Audit Committee to update our 2015 briefing on environmental and sustainability metrics. This raised concerns about the timeliness of some of government's environmental data, these data's alignment with the government's objectives, and whether there were enough mechanisms to enable the government to take action if performance was poor.

Key findings

Good practice

6 Good performance metrics are reliable, relevant and cost-effective. If metrics are to be useful, they must give a fair, accurate and timely reflection of performance. It is rarely possible to have perfect performance information, and there is a balance to be struck between what is ideal and what is possible, available and affordable. There can be a legitimate trade-off between the reliability of the data and how quickly it can be produced. But organisations need to carefully consider the cost-benefit case for metrics, ensure quality and timeliness is 'good enough' for the circumstances, and be transparent about any caveats and limitations (paragraph 1.4 and Figure 2).

7 Performance information should be at the heart of government's decision-making. Performance information is only useful if it actually informs decisions in practice, and we have found that this is too often an area of weakness. Performance information should be central to all policy decisions, including the introduction of new environmental policies, increases or reductions of funding for particular initiatives, and the running of established programmes. It allows policy-makers to track whether projects and programmes are achieving their objectives, and so correct delivery problems early, and prioritise effectively. To do this, metrics need to be part of a good performance system. Goals and objectives need to be clear, with appropriate arrangements for reviewing performance data, and mechanisms for ensuring that action is taken if performance is poor. Such arrangements are essential for achieving value for money from metrics: they mitigate the risk that the development of metrics becomes a distraction or a substitute for tackling underlying policy challenges (paragraph 1.5, Figure 3 and paragraph 2.11).

8 Designing the right metrics for environmental policy can be particularly challenging, but it is important to invest properly to get this right. Policy to meet environmental objectives is often complex and cross-cutting. Improving air quality, for example, will require action from a number of government departments (responsible for local government, health and transport as well as the environment) to influence a wide range of people and organisations to make significant and systemic changes. This brings practical challenges for developing a coherent and coordinated approach to tracking progress. However, difficulties are not insurmountable. We would expect policy-makers to develop a clear logic model that shows how they expect their policy initiatives in the short and medium term to influence long-term outcomes, and to measure the progress of these actions, as well as the ultimate outcomes, to help show whether steps are being taken in the right direction. New technology and analysis techniques also bring opportunities to improve coverage and quality alongside timeliness: the use of satellite data can reduce the need for physical inspections, permit near-real-time monitoring and improve the ability to analyse variations across different geographical regions (paragraphs 1.5, 1.6, Figure 4, and 3.10).

9 It is vital to have good, accessible public reporting on performance information. This allows stakeholders to test and challenge the conclusions that decision-makers draw from it. It can also help engage citizens with any behaviour changes required. If citizens have a clear understanding of progress on air quality, for example, it may build support for the switch to low emissions vehicles, walking and cycling (paragraph 1.5 and Figure 5).

Current metrics

10 There are examples of the government's approach that are good, and which compare favourably with approaches taken in other countries. The UK is one of the countries that has progressed furthest with developing data for a set of globally agreed indicators for the UN Sustainable Development Goals, currently publishing data for 64% of the indicators. The data are published by the Office for National Statistics through an online platform that is transparent and easy to use, and which includes an opportunity for anyone to provide feedback on the indicators, including on new or alternative data sources (albeit by email rather than on the public platform, as in Finland). The Climate Change Act is widely regarded as establishing a robust framework for measuring progress on mitigating and adapting to climate change, and includes statutory responsibilities for an independent organisation (the Committee on Climate Change) to monitor and report on progress, and reporting against metrics on projected as well as current performance on greenhouse gas emissions (paragraphs 2.7, 2.8 and Figure 5).

11 However, the weaknesses we raised in 2015 remain. There remains a patchwork of sets of metrics that do not align clearly with government's overall objectives or with each other. While the UK publishes data for most of the UN Sustainable Development Goal indicators, not all of these data are up to date. Data for one-third of the published metrics of the most environmentally focused Goals relate to 2015 or earlier. And mechanisms for taking action in response to some sets of metrics are not yet well developed, including for the Environmental Accounts, the Greening Government Commitments for the sustainability of the government estate, and the UN Sustainable Development Goals (paragraphs 2.4 to 2.7, and summary paragraph 19).

12 While government collects and reports a wide range of environmental data, there are some important gaps. We have not carried out an exhaustive review of the completeness of environmental metrics, but there are recognised gaps in government's ability to measure soil health and the UK's impact on biodiversity overseas. These issues are difficult to measure, but important to understand, particularly as government develops a new farming policy. Our recent reports have also highlighted some gaps in metrics for individual policy areas. On packaging recycling, we found that the methodology for the main performance metric (packaging recycling rates) was not sufficiently robust, because it did not account for undetected fraud and error. For the Renewable Heat Incentive scheme, the Department for Business, Energy & Industrial Strategy (BEIS) did not have specific goals or clear milestones to monitor progress for one of the scheme's three objectives (helping the supply chain to develop) (paragraphs 2.9, 2.10 and Figures 10 and 13).

13 Our reports have also raised concern about how effectively metrics are used to inform decision-making in practice. On air quality, we found that Defra and the Department for Transport's (DfT) joint air quality unit did not systematically oversee performance data on schemes run by other parts of government that include intended benefits to air quality. This meant that there was no clear single responsibility within government for knowing whether the initiatives form a coherent portfolio that delivers good value for money as a whole for air quality. Defra and DfT told us that they agree that this is an important objective, but believe that the arrangements which they currently have in place should be sufficient. For packaging recycling, Defra had not asked important questions about risks and value for money when reviewing performance against the main metric (paragraph 2.11 and Figures 11 and 12).

The future for environmental metrics

14 Government's plans for a new framework of metrics to measure progress against its 25-Year Environment Plan are promising. On 19 December 2018, Defra published a draft framework of 65 environmental metrics to give an overview of the health of the natural environment, including the quality of air, water and wildlife diversity. Because it takes a whole-systems approach, the framework should help decision-makers understand whether government's actions as a whole are consistent with its ambition to improve the natural environment within a generation, and it should help to highlight potential interactions between different policy areas. There are also positive signs that the framework will support accessible public reporting on the state of the natural environment, as the draft Environment Bill, would require government to report annually to Parliament on the metrics. Defra told us it plans to make the detailed, constituent data public alongside summary analysis, to promote transparency over underlying trends. There is international good practice that Defra can draw on as it develops this public reporting. For example, Germany produces an annual data report on the environment, which sets out clearly the reasoning behind each indicator and whether progress is on track (paragraphs 3.2 to 3.7 and Figure 14).

15 Defra has more to do to make sure that the framework gives an authoritative position on the state of the natural environment. Defra took the positive step of discussing its draft framework with some stakeholder groups before publication, to understand their views on whether the proposed metrics are the right ones. However, some told us that they were not given enough time to engage fully in assessing them, and Defra has not yet made any changes to the indicators in response to this feedback. Defra has now published the framework for wider public consultation. This only gave stakeholders just over five-weeks to respond, with that time period spanning Christmas and New Year. Although it included a commitment to keep the indicator framework under 'regular review'. There are also some significant gaps in the data: Defra expects that 23% of the proposed metrics will not be ready until at least December 2019. A further 9% are likely to still need further development after that point, including on soil and sea health. To maximise their impact, environmental metrics should have a spatial element, to identify variations in different geographical areas, but Defra does not expect to publish indicators at sub-national level (paragraph 3.10 and Figure 16).

16 Defra has established arrangements that should encourage its policy-makers to use the new system of metrics to inform decisions. The new framework gives an overview of progress against ultimate 'outcomes', but it is also important to track more immediate 'outputs' (such as trees planted, or protected areas created). Defra has already started doing this through a programme office, which is responsible for assessing progress on the 230 commitments for action in the 25-Year Environment Plan. In effect, therefore, these 230 actions act as an additional, complementary set of metrics. The programme office reports on a bi-monthly basis to a dedicated board, which in turn reports to a senior environment committee. Defra told us that it plans to incorporate monitoring of progress on the 65 outcome metrics into this process once they are agreed (paragraph 3.6).

17 However, it has not yet done enough to engage other parts of government with its approach, nor to set clear accountabilities for performance. Defra has not yet engaged the DfT, BEIS and the Ministry of Housing, Communities & Local Government (MHCLG), in its oversight arrangements for progress against the 25-Year Environment Plan. This is despite these departments having a significant impact on the natural environment, both through projects intended to improve the environment, and through the potential unintended consequences of business-as-usual. This means there is no clear, single point of ownership for performance as a whole across government on the 25-Year Environment Plan. Defra has also not yet set out expectations for the scale of improvement it expects as measured by each metric over the short and medium term. Less than one-quarter of the 44 targets in the Environment Plan are entirely specific, measurable and time-bound. Defra will also need to establish clear expectations for the contribution of all parts of government to improving performance as measured by these metrics. Without these expectations, there can be an incentive to delay taking action (paragraph 3.10).

18 Defra will also need to manage the risks and opportunities associated with EU exit. EU exit presents a huge challenge for Defra and has created an unprecedented portfolio of work that it needs to deliver. This brings a risk that less immediate issues such as metrics do not get sufficient resource and senior management focus. Also, at the moment, much of government's environmental monitoring is driven by EU requirements: the UK currently has 161 reporting obligations to European bodies, including the European Commission and the European Environment Agency. Defra will need to ensure that it maintains or improves the quality of this wider environmental monitoring, to supplement the high-level metrics in the new framework. At the same time, EU exit could bring opportunities to review this wider reporting to assess whether it all adds value in relation to UK goals (paragraphs 3.13 to 3.16).

19 It will be important to embed key environmental metrics into government's core planning and performance monitoring. Single Departmental Plans are the main way that government conducts strategic business planning. The plans are expected to function as comprehensive, costed business plans, setting out each department's objectives, and how it will monitor performance against them. They must be refreshed annually and require Cabinet Office and HM Treasury approval. The current plans do cover some well-established environmental policies such as climate change commitments and the Greening Government Commitments. However, coverage of the UN Sustainable Development Goals is thin: the plans highlight links between the Goals and existing policies, but do not set out in full each department's responsibilities for achieving the Goals. The goals relating to the 25-Year Environment Plan were announced in January 2018 but not reflected in the most recent round of Single Departmental Plans across government, although Defra's internal plan sets out a clear timetable for when it expects to produce key items such as performance metrics to support the plan's ambitions. HM Treasury and Cabinet Office have issued draft guidance directing Departments to indicate in their 2019-20 Single Departmental Plans where their objectives or work areas support the 25-Year Environment Plan (paragraphs 2.12 to 2.14).

20 The proposed new environmental watchdog needs 'teeth' to provide effective scrutiny over environmental metrics. Government is establishing a new environmental watchdog to fill a potential 'governance gap' after EU exit, given the role that the European Commission has played in holding government to account for environmental legislation, including on air quality. The draft Environment Bill would establish the watchdog as the Office of Environmental Protection, with an obligation to publish an independent annual progress report on implementation of the 25-Year Environment Plan, and to investigate the compliance of public authorities with environmental law. It would be able to set its own strategy, and would have the power to issue formal compliance notices to public authorities and to apply for judicial review. The watchdog will be funded through Defra, with a chair appointed by the Secretary of State for Defra. While in principle this is not incompatible with it being functionally independent, it could bring risks for its independence in practice or for its perceived independence. To be effective in holding people to account the new organisation will need to have access to good-quality environmental data, and to set clear expectations over how it will use these data to determine whether and how to intervene if performance is not on track. It will also need appropriate resources and strong leadership (paragraphs 3.11 and 3.12).

Conclusion

21 Successive governments have done a lot to raise the profile of environmental issues, and the publication of a 25-year plan for improving the natural environment within a generation could mark a step-change in approach. Government's draft framework for tracking progress against these environmental ambitions is promising. While significant challenges still need to be overcome, it is encouraging that the initial work is taking a broad, 'whole system' view. A critical test will be whether there is strong 'whole of government' ownership of the new framework of metrics, with all parts of government actually using this information to monitor progress and take action if performance is not improving as quickly as expected. To enable continuous improvement, it will be important that public reporting on progress is transparent and accessible, to engage the wider community in challenge and public debate. And the new environmental watchdog needs to be demonstrably independent to provide strong external scrutiny.

Recommendations

22 In preparing this report we have mainly sought to raise issues for the government and the Environmental Audit Committee to consider how to address. We do, however, have five direct recommendations, that government should:

- a strengthen governance arrangements over environmental metrics, so that there is a single point of responsibility for each set within government.**
This single point should be responsible for regularly reviewing what the metrics show about performance against government's objectives, and should have the authority to require action if performance is poor. Given the cross-cutting nature of environmental issues, it should have strong engagement with all government departments. A particular priority is to establish this for the Sustainable Development Goal indicators, and for the outcome metrics for the 25-Year Environment Plan;
- b improve accountability for the 25-year plan metrics,** by setting clear public expectations for the scale of improvement it expects for each of the ten goals over the short and medium term, supported by a robust internal analysis of how performance reported through the 65 indicators will need to improve to meet these expectations;
- c ensure that the breadth of environmental data does not decline without good reason after EU exit.** Annual progress reports to Parliament on the 25-Year Environment Plan should include an annex with links to performance data for all the environmental metrics previously reported to the EU (as at exit day), or an explanation of why the UK no longer reports against a particular metric;
- d fill data gaps, particularly through greater use of geospatial data,** including satellite imagery; and
- e strengthen safeguards for the new environmental watchdog's independence,** by setting out how it intends to involve Parliament in choosing its chair and in determining its funding, and by setting out a clear framework document for the terms of the relationship.