House of Commons Environmental Audit Committee – The Sustainable Development Goals in the UK inquiry

---

Written evidence submitted by the Institution of Environmental Sciences

The Environmental Audit Committee launch an inquiry into the domestic implementation of the UN Sustainable Development Goals (SDGs). Written submissions were invited in September 2016.

Background

1.1. The Institution of Environmental Sciences (IES) is a membership organisation that represents over 3,000 professionals from fields as diverse as air quality, land contamination and education - wherever you find environmental work underpinned by science and other sources of robust evidence. A visionary organisation leading debate, dissemination and promotion of interdisciplinary, systems-based environmental science and sustainability, the IES promotes an evidence-based approach to decision and policy making.

1.2. Sustainable development and sustainability are at the core of our mission, with the Institution's aims stating that it exists "To promote the role of environmental sciences and sustainable development in higher education, the workplace, the professions and society at large". We therefore welcome the opportunity to provide evidence to this inquiry and commend the committee for pushing the SDG agenda forwards in the UK, recognising that the SDGs are universal and not just an issue for developing countries.

1.3. The IES is a member of the UK Stakeholders for Sustainable Development (UKSSD) network which brings together stakeholders from all sectors to address the challenges of sustainable development. UKSSD has also made a submission to this inquiry, to which the IES contributed.

DOMESTIC DELIVERY OF THE SDGS

2. What are the potential costs, benefits and opportunities to the UK of delivering the Goals domestically?

2.1. Scientifically, the issue of sustainability is a classic complex, systems-based, "wicked problem". Since the term 'sustainable development' was most famously articulated in the 1987 Brundtland Report *Our Common Future*, it has proved consistently challenging to implement the concept and many of the sustainability challenges we face today are no exception. As Pryshlakivsky and Searcy (2012) explain in a paper on the subject, like all wicked problems, sustainability issues "are often characterised by a lack of clarity, uncertainty, ambiguity, high risk, and limited understanding"[1]. Furthermore, these issues tend to involve a large and diverse network of stakeholders, are highly interconnected, and relevant at different geographical and temporal scales. Wicked problems do not have simple, linear solutions. To tackle sustainability challenges which span the social, economic and environmental spheres, we instead need to seek to

[1] Pryshlakivsky, J. and Searcy, C. (2012) 'Sustainable Development as a Wicked Problem' in: Kovacic, S.F. and Sousa-Poza, A. (eds.) *Managing and Engineering in Complex Situations.* Springer. pp109-128. http://link.springer.com/chapter/10.1007%2F978-94-007-5515-4_6

negotiate 'clumsy' solutions: systems-based, interdisciplinary, multi-scalar responses to complex problems[2].

2.2. The benefits of taking a systems (or 'joined up') approach to tackling socio-environmental problems have been consistently highlighted by environmental scientists for many years. If the UK is to successfully transition towards a more sustainable and resilient society, where all individuals are empowered to reach their full potential, we must seek to tackle economic, social and environmental challenges together.

2.3. Economic, social and environmental are the three interconnected dimensions of sustainable development. In the 2030 Agenda[3], it is explained that the SDGs are indivisible and integrated, and have been designed to form a universal framework, applicable to all countries and individuals. It is in their ambition, and as a framework, that the SDGs offer the greatest opportunity to the UK: to guide, shape and reinvigorate national efforts to address environmental problems and poverty and social injustice in all their forms in an integrated and coordinated fashion.

2.4. The SDGs also present an opportunity for the UK to demonstrate global leadership, through positive actions to implement the Goals domestically, and elsewhere in the word. The leadership shown by the UK Government on global climate change targets is to be commended and has been a source of significant national pride. At a time when the UK will be renegotiating its role in world affairs, we hope the UK will position itself as a world leader on the sustainability agenda, by embedding the SDGs in all areas of both our foreign and domestic policy.

2.5. There is a well-established evidence base which clearly demonstrates the social and economic costs to the UK of a range of environmental challenges. Some examples are highlighted below:

- This year, the Royal College of Physicians and the Royal College of Paediatrics and Child Health published research demonstrating that almost 40,000 deaths are attributable to exposure to air pollution annually in the UK[4]. Health problems associated with exposure to this pollution have a high cost to individuals, the health service and to businesses, and the research estimates these costs to the UK economy add up to over £20 billion every year.
- According to the Committee on Climate Change, insured losses from flooding and severe weather events have cost an average of £1.5 billion per year over the last 20 years in the UK[5]. In their fifth carbon budget, the Committee clearly states that it considers that not acting to tackle climate change "is not an option" due to "the much higher costs of unmitigated climate change"[6].

---

[2] For an introduction to "wicked problems" and "clumsy solutions" see Rayner, S. (2014) 'Wicked Problems'. *Environmental SCIENTIST*, pp4-6. https://www.the-ies.org/sites/default/files/journals/contentious_issues_apr_14.pdf.
Professor Rayner's 2014 Burntwood Lecture for the IES on this topic is also available online: https://www.youtube.com/watch?v=PEkvP3EUKJg

[3] General Assembly Resolution 70/1, *Transforming our world: the 2030 Agenda for Sustainable Development*, A/RES/70/1 (14 October 2015). undocs.org/A/RES/70/1.

[4] RCP and RCPCH (2016) *Every breath we take: The lifelong impact of air pollution.* Report of a working party. February 2016. https://www.rcplondon.ac.uk/projects/outputs/every-breath-we-take-lifelong-impact-air-pollution

[5] https://www.theccc.org.uk/tackling-climate-change/preparing-for-climate-change

[6] Committee on Climate Change (2015) *The Fifth Carbon Budget*. November 2015. Pp 17. https://documents.theccc.org.uk/wp-content/uploads/2015/11/Committee-on-Climate-Change-Fifth-Carbon-Budget-Report.pdf

- There is growing evidence that the manner and intensity in which UK soils are currently used is causing their degradation, giving rise to significant social costs. Research funded by Defra has estimated that quantifiable soil degradation costs in England range between £0.9 billion and £1.4 billion per year, with eighty per cent of these costs occurring off site, with implications for flood risk management and climate change mitigation amongst other issues[7].
- The State of Nature 2016 report, published this week, presents evidence to suggest that the decline of nature in the UK continues, and that the UK is among the most nature-depleted countries in the world[8]. This is a worrying trend; as the 2011 Government White Paper '*The Natural Choice: securing the value of nature'* argued, "A healthy, properly functioning natural environment is the foundation of sustained economic growth, prospering communities and personal wellbeing"[9].

The SDGs represent a holistic organising framework through which the UK can seek and implement responses to these problems, delivering a multitude of benefits for people (both UK citizens and beyond) and the environment, now and into the future.

2.6. In commencing these efforts, there is also an ever-growing body of evidence demonstrating the significant benefits which sustainable ways of living can bring to individuals and society, which can be drawn on. For instance:

- A 2014 report by the UCL Institute for Health Equality, commissioned by Public Health England, concluded that there is significant and growing evidence on the health benefits of access to good quality green spaces[10]. Health benefits included both mental and physical health, and it was also observed that increasing use of green space by all social groups can deliver other benefits such as greater community cohesion and reduced social isolation. These conclusions are supported by the findings of the UK National Ecosystem Assessment, which also illustrates the wide range of other ecosystem goods and services which can be derived from urban greenspaces[11].
- Alternative methods of surface water management, which minimise the use of buried pipes, instead giving preference to surface-based systems and green infrastructure, are being used with increasing frequency around the world. There is growing evidence that Sustainable Drainage Schemes (SuDS) can deliver a wide range of benefits by naturally slowing, storing and filtering run-off from developments, decreasing flood risk and improving water quality. These schemes can also deliver biodiversity benefits, as well as amenity and recreational benefits to communities. The organisation Susdrain has

[7] Graves et al. (2015) 'The total costs of soil degradation in England and Wales'. *Ecological Economics*, 119: 399-413 http://www.sciencedirect.com/science/article/pii/S0921800915003171

[8] Hayhow, D.B. et al. (2016) *State of Nature 2016*. The State of Nature Partnership. http://www.rspb.org.uk/forprofessionals/science/research/details.aspx?id=363867#downloads

[9] HM Government (2011) *The Natural Choice: securing the value of nature.* June 2011 https://www.gov.uk/government/publications/the-natural-choice-securing-the-value-of-nature. Executive Summary, paragraph 1.

[10] Institute of Health Equity (2014) *Local action on health inequalities: improving access to green spaces.* Public Health England, Health equity briefing 8: September 2014. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/355792/Briefing8_Green_spaces_health_inequalities.pdf

[11] UK National Ecosystem Assessment (2011) *The UK National Ecosystem Assessment: Synthesis of the Key Findings*, UNEP-WCMC, Chapter 10: Urban.

collected a database of case studies which demonstrate the wide range of benefits to people and the environment which these integrated schemes can deliver[12].

- Investing in sustainable technologies and business models can also bring significant economic benefits. For example, in 2013, the Gross Value Added to the UK economy by the 'low carbon sector' (which excludes many other 'green' businesses operating in other sectors such as water or the natural environment) was estimated at £44.9 bn, and is showing significant year on year growth: 8.7% over the period 2010-2013[13]. This is without considering the cost savings associated with improvements in public health, and offsetting the impacts of climate change which some of these technologies, if widely adopted, could deliver.

2.7. Generally, but especially when resources are scarce, maximising the benefits to be gained through partnerships is very important. Goal 17 deals explicitly with the importance of partnerships, and highlights a key opportunity for delivering sustainable development domestically. Crucially, the SDGs are a universal set of goals as applicable to businesses and civil society as to national and local governments. There is a need for cross-sector collaboration to deliver these Goals, and an opportunity for the Government to use the SDGs as a catalyst to bring together a diverse range of stakeholders and potentially develop a broad range of long-term and profitable collaborations. To maximise this opportunity the Government can work with networks such as UKSSD. Learned societies and professional bodies, such as the IES, will also be invaluable partners in this endeavour, and can assist the Government and other stakeholders to access ideas and expertise.

3. Which Goals are the most relevant to the UK? Where is UK domestic performance believed to be strongest and weakest?

3.1. It is made clear in Agenda 2030 that the SDGs are "indivisible and integrated". They have been designed to act as a framework for holistic work towards sustainable development, rather than a list of desirable outcomes from which actors can cherry-pick. The SDGs should therefore be embraced in this way, and a comprehensive strategy for domestic delivery developed according to these principles.

3.2. One concept fundamental to delivery on the SDGs is policy coherence: policies across Government must reinforce rather than undermine one another. We feel that numerous recent examples highlight a need for better cross-government thinking and action, and for establishing more effective safeguards to avoid policy conflicts in the UK. For instance several recent examples can be identified in UK Government energy and climate change policy, such as cutting subsidies for renewable energy whilst committing on the global scale to major emissions reductions under the Paris Agreement, or cancelling a major Carbon Capture and Storage (CCS) demonstrator competition despite evidence that the costs of investment to tackle climate

[12] http://www.susdrain.org/case-studies/

[13] Department for Business, Innovation and Skills (2015) The size and performance of the UK low carbon economy: Report for 2010 to 2013. March 2015. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/416240/bis-15-206-sizeand-performance-of-uk-low-carbon-economy.pdf

change now will be significantly lower than the costs of inaction in the future[14]. Another example can be found in housing policy: despite the introduction of brownfield registers and the 'permission in principle' route to planning permission in the Housing and Planning Bill 2016, practitioners report that incentives to support the development of brownfield over greenfield sites are currently failing. Again, generally, but particularly when public resources are scarce, policy coherence is vital to ensure that government operates efficiently, and the benefits from policy interventions can be maximised. While we need to innovate we also need to base our actions on evidence of what works, as we cannot afford the costs of failure; therefore, as we innovate we must learn. A Ministerial working group, as part of a programme to improve cross-departmental coordination, would assist in delivering on the SDGs, and in limiting costs associated with policy conflicts.

3.3. Notwithstanding the statements above, there are of course some goals where the UK, as a developed nation, will be performing better than other nations. As such, some prioritisation will be necessary to reflect differing national circumstances, and deliver the maximum benefit with the available resources. Nevertheless, any such prioritisation should take into account the interconnectedness of the Goals, and avoid cherry-picking those which are the easiest to address.

3.4. For more information on the potential ways in which this work could be organised, in order to balance the realities of delivery with the principle of indivisibility, we direct the committee to the submission of UKSSD, which outlines the proposals of the Stakeholder Forum on phasing.

3.5. This is not to say that the UK should consider it has no work to do in areas where it is performing well: we support the statement of UKSSD, that the SDGs should be a starting rather than an end point for sustainable development in the UK.

HOW BEST TO DELIVER THE GOALS

4. What structures, governance mechanisms, resources and lines of accountability are required within Government nationally and locally to ensure that efforts to deliver the Goals will be meaningful and achieve real change? Who should be providing leadership on this agenda?

4.1. If implementation of the SDGs in the UK is to be successful, high level leadership will be essential. We would recommend that responsibility for delivery on the SDGs should be assigned to a Minister in the Cabinet Office, rather than DFID. The Cabinet Office is better placed to undertake commissioning/mandating and coordination activities across multiple departments, has experience in this type of activity, and will be better able to take a balanced, holistic view, in line with the indivisibility principle. Clear leadership within and throughout government is extremely important, so current uncertainty regarding where this responsibility lies and how it will be effected and embedded should be addressed as quickly as possible.

4.2. However, it is vital to stress that sustainable development should be everyone's responsibility and not considered to be the task of any one sector (e.g. international development, or environment) or simply assigned to particular teams within organisations. As such, structural approaches to delivering on the Goals are important, but by no means sufficient. Efforts will also be required to effect cultural change within our institutions. For example, it would help to embed this agenda in our institutions if a responsibility for all public sector professionals to

[14] Oxburgh (2016) *Lowest cost decarbonisation for the UK: The critical role of CCS.* Report to the Secretary of State for Business, Energy and Industrial Strategy from the Parliamentary Advisory Group on Carbon Capture and Storage (CCS).

strive for sustainability in their work could be introduced and formalised in some way. One way to achieve this aim would be to include sustainability as an eighth Nolan Principle (the ethical standards expected of public office holders), as recommended by the Society for the Environment[15].

4.3. Once the responsibility for overall cross-government coordination is clarified, formalised mechanisms for cross-departmental collaboration will be very important. We support the recommendation of the International Development Committee for the establishment of a formal forum for relevant Secretaries of State and Ministers to meet on a regular basis to discuss implementation. It will also be important that officials at all levels and in all professions across government collaborate in a similar fashion. We also support the recommendation that the Cabinet Office should develop a communication strategy to ensure all departments understand the implications of the Goals for their own work, as a positive first step to meaningful engagement. Consideration of how cultural and behavioural change occurs within organisations will be necessary before implementation; for example though objective setting, professional development and performance appraisal.

4.4. Although we agree that the Goals are an indivisible and integrated framework, it will be important to establish clear lines of accountability with individual departments. As such, we also support the recommendation that departments should be assigned specific responsibilities for making progress on the SDGs, which should be outlined in their Single Departmental Plans. It should be made clear that public bodies' responsibilities for making progress on the SDGs are fundamental to their wider accountabilities. This is not to say that the Goals should simply be divided up amongst departments: significant cross-departmental, cross-institutional and cross-sector working will be required, but to stimulate action towards delivery, formalising the expectations of government departments will be a helpful step, and provide accountability.

4.5. Likewise, national Government should consult with the Devolved Administrations and Local Authorities to establish expectations of these stakeholders. When the responsibilities of Local Authorities are being defined however, it should be ensured that where new activities are likely to be required, appropriate funding is available to support this. Otherwise, national consistency in delivery or reporting on the Goals is unlikely, both geographically, and across governance levels.

4.6. A formalised system for regular and transparent reporting must be established as a matter of importance. The ONS is already undertaking work with a range of stakeholders to scope how such a system may be developed, and this work is to be commended. Internationally, there is still debate about the most appropriate metrics for assessing progress on the SDGs and their targets. The UK approach will need to adapt to reflect the outcomes of this process.

4.7. The Government must recognise that the SDGs cannot be delivered by government alone. As such, an essential component of the UK's implementation strategy must involve mechanisms to engage and involve a wide range of non-governmental stakeholders. We recommend that this involves the research community, who are keen to build partnerships which will maximise the impact of their work. A diversity of perspectives will breed innovative and unexpected opportunities, essential if we are to deliver on this ambitious agenda. To maximise this potential, the Government will need to investigate strategies to ensure the appropriate funding is available (public or private) for implementation activities, and to support innovation in relevant fields.

[15] https://www.instituteofwater.org.uk/news-post/society-of-the-environment-calls-for-clear-action-in-celebration-of-world-environment-day/

4.8. The ambition of the SDGs and the 2030 Agenda highlight the need for new approaches to delivering sustainable development. In the UK we currently have an opportunity to embed sustainability science at the heart of our research and innovation sector. If we are to address these challenges, we need a research funding system which supports challenge-led, interdisciplinary research and innovation, and mechanisms to enhance knowledge exchange, training and skills in these vital areas. The report of the Nurse Review of Research Councils has called for structural changes in the UK research funding landscape to better support multi- and inter-disciplinary research, and research which aims to address societal needs and "grand challenges"[16]. The Higher Education Bill which is currently passing before Parliament aims to address the recommendations of the Nurse review, and is an important opportunity to explicitly embed the need for sustainability science to support the SDGs at the heart of the national research and innovation system. Some excellent work in this area is already being enabled through Research Councils UK's Global Challenges Research Fund (GCRF) and the Future Earth Initiative, as well as by numerous other research funders, which must be developed and built on.

5. How are other countries implementing the SDGs domestically? What examples of best practice are there that the UK can learn from?

5.1. On this point we direct the committee to the response of UKSSD, who highlight several examples of good practice from which the UK could potentially learn.

MEASURING AND COMMUNICATING PERFORMANCE

6. How can performance against the Goals be measured and communicated in a way that best engages policy makers, local government, businesses and the public and allows effective scrutiny of the Government's performance by Parliament and civil society?

6.1. If performance metrics are to be effective, they will need to be tailored to and meaningful for the audience at which they are aimed. As such, different approaches to metric definition, monitoring, evaluation and reporting are likely to be required for different purposes. It is also likely that, as in different national circumstances targets may be interpreted differently, national reporting frameworks will not be entirely standardised. The UK's framework, for instance, must reflect our status as a more developed nation, with metrics reflecting differing domestic priorities to those of less developed nations. Within the UK, some differences will also emerge between the Devolved Administrations, to reflect the different approaches which have been adopted in certain policy areas.

6.2. Nevertheless, it will still be important that the UK's official reporting framework complies with international reporting standards, to ensure data is comparable and to enable global aggregation.

6.3. The UK's reporting framework should have a strong scientific underpinning. The ONS should continue the efforts already initiated to engage scientists and other stakeholders in the design of these metrics. Consultation should also be continuous, to allow refinement of indicators or metrics in response to feedback from use in practice, or novel emerging data collection or analysis technologies.

6.4. It is important to note that in some cases the metrics required to monitor progress on certain themes (for instance, ecosystem resilience) are not yet well developed, so proxies may be

[16] Nurse (2015) *Ensuring a successful UK research endeavour: A review of the UK Research Councils*. BIS/15/625.

needed in the interim period. Meanwhile, research and evidence-gathering should be encouraged to support the development of these metrics and indicators.

7. How should measurement against the SDG indicators be integrated with existing measures of sustainable development performance, such as the Sustainable Development Indicators and the Well-being measures?

7.1. We support the recommendation of UKSSD, that measurement activities regarding delivery on the SDGs should be integrated with existing measures of sustainable development performance wherever possible and appropriate, to minimise the administrative burden of reporting. There are many existing datasets on which the Government can draw for measurement purposes, both in and outside of government. It will be important to engage with non-governmental stakeholders to gain access to this data, and where possible to ensure formatting can be standardised to streamline the process. However, the 169 SDG targets form an extensive framework, and it is inevitable that new data will be required to measure progress on some of these points. As highlighted in 6.4, new indicators and metrics will also be required to monitor progress in some areas, many of which do not yet exist in a robust form. As such, continued investment in metric development, as well as in new data collection and analysis techniques, will be necessary. To improve the efficiency and effectiveness of current monitoring methods support will be required for the deployment of technologies such as satellite earth observation, remote sensing and novel data analytics tools.

7.2. The Government already has considerable experience of reporting on metrics through their annual Sustainable Development Indicators (SDIs) reports, initially produced by Defra[17] and now by the ONS[18], and we would encourage the Government to build on this work. Following the example set in the SDI reports, wherever possible progress against the indicators should be communicated in a clear and visually appealing manner using charts and traffic light indicators. This will enable better public understanding of the indicators, greater societal involvement in their achievement, and accountability. This recommendation should apply to both comprehensive official reporting documents and to outputs designed for public engagement.

7.3. The importance of continual improvement in this area should not be understated. By continually striving to refine and develop better and more meaningful indicators and metrics, and by embracing the opportunities presented by innovations in techniques and technologies, we may find new and better ways to understand socio-environmental systems. Being open to new ways of understanding the states and dynamics of systems should allow us to ultimately set new and better goals and targets. For example, if better methods to monitor ecosystem resilience are developed, we may find we gain a new understanding of environmental systems, and so are able to develop targets based on better and more effective indicators than habitat area, or species population data.

8. How can performance best be communicated in a way that involves businesses, the public and local government in achieving the SDGs within the UK?

[17] Defra (2013) *Sustainable Development Indicators*. July 2013 https://www.gov.uk/government/statistics/sustainable-development-indicators-sdis

[18] ONS (2015*) Sustainable Development Indicators: July 2015*. 13 July 2015. http://www.ons.gov.uk/peoplepopulationandcommunity/wellbeing/articles/sustainabledevelopmentindicators/2015-07-13

8.1. Before initiating efforts to communicate performance on the SDGS to the public, we suggest undertaking some research to better understand the various public audiences for this information would be useful. It would aid engagement efforts to establish how much various publics currently understand about sustainability, and use this information to tailor communication. Establishing a baseline in this way could be achieved by placing appropriate questions in attitude surveys carried out by various government departments, such as the Public Attitudes to Science survey previously carried out by BIS.

8.2. In terms of generating broad and meaningful public engagement, we urge the Government to investigate how it can collaborate with existing, localised schemes for scientific or sustainability engagement, through organisations such as the Association for Science and Discovery Centres, the Wildlife Trusts, local community engagement groups and other bodies which can leverage a more familiar and personal voice. Relating sustainability to the everyday choices people make on an individual or family level is likely to be the most effective method for generating wider societal engagement and buy-in. Therefore, making use of the considerable expertise of other organisations in this area will be essential. For instance, actively disseminating clear and concise progress data to organisations such as environmental NGOs, will enable them to interpret and communicate the data more effectively to their own audiences.

8.3. Of course, some higher level reporting will be necessary, and on the issue of communication tools we direct the committee to our suggestions in 7.2 above. Developing a simple system for visualising performance metrics, such as traffic light performance indicators, will be of great assistance in engaging a variety of stakeholders with this agenda.

8.4. When communicating measures of performance to the public, it will not be effective to report against each of the 169 targets individually – this quantity of information would be overwhelming and audiences will lose interest. Rather, to complement more comprehensive official reporting, a series of meaningful and engaging headline or summary indicators will be useful. In this way progress towards the Goals can be more easily publicised and will reach a wider audience.

8.5. Of course, as stated above, the SDGs cannot be achieved by government alone. As such, one-way communication will be insufficient. More effective methods for two-way engagement and dialogue with diverse groups should be pursued to ensure that interested parties are, and remain, engaged and active.

8.6. As well as working with data scientists to produce indicator sets and infographics for public engagement, wherever possible the Government should seek to make the data underpinning the indicators accessible. This will help to ensure transparency in the reporting process. Enabling innovative businesses, NGOs and researchers to access this data in appropriate formats may also generate unforeseen business and scientific opportunities in the future.