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Rt Hon Philip Dunne MP
Chair, Environmental Audit Committee
House of Commons
London
SW1A 0AA

19 January 2022

Dear Mr. Dunne,

I write in response to the Environmental Audit Committee's request for evidence for its inquiry into *aligning the UK's economic goals with environmental sustainability*.

As the Committee will be aware, the Office for National Statistics (ONS) is the UK's National Statistical Institute and largest producer of official statistics. We aim to provide a firm evidence base for sound decisions and develop the role of official statistics in democratic debate.

We provided written evidence¹ to the Committee for its inquiry on ecosystems and biodiversity in May 2021, which referenced natural capital accounting. We welcome this opportunity to contribute to this new inquiry and update the Committee on our work.

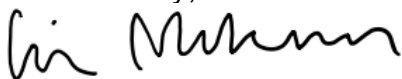
Our economic statistics include the National Accounts, Gross Domestic Product (GDP), prices, the labour market, productivity, public sector finances and trade. Users include the Bank of England, HM Treasury and other departments, the devolved administrations and other sub-national authorities.

The ONS' environmental statistics include the environmental accounts, as outlined below, key surveys of the environmental economy and the natural capital accounts. These are used by a similarly broad range of departments and other bodies, including BEIS, DEFRA, the Climate Change Committee, and the Office for Environmental Protection.

As our evidence submission outlines, with understanding of the interlinkage of the environment and the economy – such as through climate change and biodiversity loss – increasing, these domains can no longer be treated as distinct and unrelated statistical domains. Additionally, Annex A contains further information on other measures of progress the ONS has developed or collaborated with other organisations on.

Our UK and international work is evolving, and we would be happy to keep the Committee updated as we progress. Please do not hesitate to let me know if we can provide anything further.

Yours sincerely,



Liz McKeown

¹ <https://uksa.statisticsauthority.gov.uk/submission/office-for-national-statistics-written-evidence-to-the-environmental-audit-committees-inquiry-into-ecosystems-and-biodiversity>

Environmental Audit Committee: Aligning the UK's economic goals with environmental sustainability: Written evidence from the Office for National Statistics

Executive Summary

1. The ONS produces annual environmental accounts which show how the environment interacts with the economy. They are used by predominantly government users, both nationally and internationally. They are comparable to some accounting estimates, such as GDP, as they are compiled in accordance with international guidelines.
2. In any move 'Beyond GDP', there is no agreed understanding of 'prosperity' or 'progress'. A 'one-size fits all' approach to measuring progress is not necessarily the ideal model. The requirement to measure the economy means a GDP-style metric will always be required in its present form. But to meet the varied needs of different users with different needs, a range of different metrics are likely to be needed. While there is limited agreement on alternative measure(s), the ONS is contributing to this debate.
3. The UK produces its National Accounts in line with recognised international guidance developed by the UN and partner organisations, the System of National Accounts (SNA) (2008). The UK is actively engaging in work to update international guidance and ensure the key challenges. However, a key objective will be maintaining international coherence and consistency so the statistics are valuable and useable, we would not wish to change UK guidelines ahead of common international guidance.
4. The ONS has made and is making significant progress in addressing some of the key recommendations in the Bean and Dasgupta Reviews. This includes improved engagement with a range of users and a variety of new and experimental measures, such as estimates of the physical and mental benefits of outdoor recreation.
5. Operationalising Professor Dasgupta's concept of 'inclusive wealth' means collating a range of measures of capital stocks. The ONS is currently working with academics to develop a measure of the overall stock of capital assets, including addressing the complex methodological challenges, and their practical application.

How does the way the Government currently uses GDP in setting macro-economic policy affect the development of environmental policy and of cross-departmental action to achieve the UK's environmental goals?

The Environmental Accounts

GDP and the National Accounts sit at the centre of a network of coherent and consistent 'satellite accounts'² produced by the ONS. These provide further information either beyond the production boundary of the National Accounts or providing deeper interpretations of the data within the Accounts, so to better inform policymakers and the public.

The Environmental Accounts³ is one such set of satellite accounts. These show how the environment interacts with the economy – for example, through the extraction of raw materials – and how the economy interacts with the environment – for example, energy consumption and emissions of greenhouse gases and air pollution. They have three elements:

² <https://www.ons.gov.uk/economy/nationalaccounts/uksectoraccounts/methodologies/aquidetotheknationalaccounts/march2020#satellite-accounts>

³ <https://www.ons.gov.uk/economy/environmentalaccounts>

- **natural capital accounts:** estimating the physical and monetary flows from a broad range of services delivered by the natural world;
- **physical flow accounts:** atmospheric emissions, material flows, water use; and
- **monetary accounts:** environmental taxes, environmental protection expenditure and environmental goods and services.

They show how society responds to environmental issues – for example, through taxation and expenditure on environmental protection, industrial decarbonisation, and changes in land use. Importantly, the environmental accounts enable apportioning greenhouse gas emissions by industry through their linkage to the national accounts.

The Environmental Accounts are used nationally and internationally, primarily by governments, but also by researchers and development organisations, to inform policy, to evaluate the environmental impacts of different sectors of the economy, and to model impacts of fiscal or monetary measures.

The UK's environmental accounts are published annually and are also included in the Blue Book⁴. As they are compiled in accordance with System of Environmental-Economic Accounts (SEEA), which closely follows the UN System of National Accounts⁵ (SNA), they are comparable with economic accounting estimates such as GDP.

How could GDP, or other current measures of macro-economic activity, more fully account for human and natural capital assets? What are the challenges and/or opportunities in moving to a way of measuring economic progress which takes greater account of such assets?

The National Accounts – and GDP – came into being around 80 years ago, in the aftermath of the Second World War. When material consumption was widely considered to be the most significant driver of human well-being, GDP rapidly became used as a short-hand for concepts like living standards, welfare, and utility.

Economists generally define welfare as the utility or satisfaction society derives from the consumption of goods and services. These goods and services are delivered either by the market or through non-market arrangements (such as within the household or via the environment). The goods and services relating to market transactions are covered by GDP⁶.

Non-market goods and services can play an important role in the quality of life of society. In this sense, welfare is multidimensional, encompassing material living standards such as income, consumption and wealth and the non-economic aspects of people's lives (what they do and what they can do, how they feel, the natural environment in which they live, etc). There have been multiple instances where the international statistics community has identified that alternative measures are required⁷.

The ONS is clear that while GDP is often used as a measure of welfare beyond the market, by its nature it is unlikely to provide a good proxy for those elements the National Accounts exclude. This debate has become essentially: if GDP is the accepted measure of welfare,

⁴ <https://www.ons.gov.uk/economy/grossdomesticproductgdp/compendium/unitedkingdomnationalaccountsthebluebook/2021/environmentalaccounts>

⁵ <https://unstats.un.org/unsd/nationalaccount/sna.asp>

⁶ Noting that non-market activity delivered by the Government is included in the National Accounts.

⁷ For example, In November 2007, the European Commission, European Parliament, Club of Rome, the OECD and the Worldwide Fund for Nature hosted the 'Beyond GDP' conference, with the objectives of clarifying which indices are most appropriate to measure progress and how to best integrate these into decision-making and promote their use in public debate. The starting point in this and other initiatives was the that Gross Domestic Product (GDP) alone was no longer the best way to measure a country's progress and needed to be complemented by environmental and social indicators.

should it be re-defined to become a good measure of welfare, or should alternative measures be created to accompany GDP to address these differences?

A 'one-size fits all' approach to measuring progress is not necessarily the ideal model. Given economic requirements to measure expenditure and market outputs mean a GDP-style metric will always be required broadly in its present form. To meet the varied needs of different users, a range of different complementary metrics are likely to be needed to suit these purposes.

While a range of alternatives have been developed, the debate continues – not least because there is limited international agreement on which alternatives to adopt, but also because GDP is the most successful economic statistic, dominating policy debate and public discourse, setting a competitive benchmark for any new metrics to gain media and public traction.

International work to tackle these questions is inevitably limited by the financial constraints faced by National Statistical Institutes around the world. Consistent delivery of any new measures requires these to be affordable to produce for most countries. To help solve this question the ONS has focussed its research on how to aggregate existing data to produce complementary statistics which could be used alongside GDP to meet wider user needs, without significant additional cost.

Statistics from the Environmental Accounts and the Household Satellite Accounts provide a strong foundation for this work. The Spectrum framework⁸ developed within this research delivers the capability to integrate these data, alongside human capital, into new measures which build upon rather than try to replace the National Accounts.

We are able to do this because satellite accounts are aligned with the SNA. As noted above, it is important to note that not all countries have been able to fully progress this agenda and deliver the necessary satellite accounts to enable even this relatively lower-cost approach. There also remain some methodological and empirical issues we need to resolve; in particular measures of natural capital depletion, and how to aggregate human capital alongside National Accounts data. This may require the re-consideration of various existing components of the national accounts. For example, Government and Private health and education spending, both of which create human capital, might need to be viewed as investment rather than consumption under this scenario. Social capital is a further area where the ONS produce data which could fit methodologically into this process.

As part of wider international discussion about these data, the UK is a leading participant in the newly formed UN Network of Economic Statisticians. Sessions are being planned in spring 2022 to discuss the implications and key barriers in going 'Beyond GDP' with economic statistics. The UK will be joint-leading, with the USA, a series of sessions on measuring capital including human and natural capital, which will help address the challenges outlined here.

How effective has the Government's response to the recommendations of Sir Charles Bean's Independent Review of Economic Statistics (2016) and Professor Sir Partha's Dasgupta Review of the Economics of Biodiversity (2021) been to date?

Bean Review: The ONS has been working to address the recommendations of the Review since 2016, from strategic management of these economic statistics through to detailed methodological improvements.

Focusing on the key recommendations, the ONS has:

- improved engagement with external experts through the establishment of the Economic Experts Working Group;

⁸ <https://www.escoe.ac.uk/publications/gdp-and-welfare-empirical-estimates-of-a-spectrum-of-opportunity>

- improved engagement with academic researchers through establishing the ESCoE research centre, which has greatly enhanced the co-ordination of research into measurement matters, the development of a PhD pathway for those wishing to focus their research on economic measurement and putting in place an international conference which has boosted the UK's reputation in this field;
- improved internal capability through extensive recruitment of economic skills, increasing recognised economist numbers from 40 to around 200;
- tackled methods issues relating to the innovative frontier of the economy, particularly relating to the digital economy, such as telecommunications;
- implemented world-class double deflation methods for National Accounts production;
- established a regular on-line time-use survey, providing cheaper and more frequent data than available in any other country in the world;
- and funded research into Beyond GDP matters, such as natural capital, human capital, and the household satellite account.

Dasgupta Review: The Review had a broad audience, including government, academia and beyond. As the leaders on natural capital accounting, the ONS agreed with HM Treasury to undertake additional work in the remainder of FY2020/21 to accelerate the natural capital accounts enhancements.

Our 2021 publications added estimates for:

- carbon sequestration in UK seas;
- value of fish capture linked to the sustainability of those fisheries;
- and longer trips for tourism were added to our recreation value.

Other work this year, accelerated by the additional funding and yet to be published, includes:

- improvements to our work estimating the impact of public green space on house prices;
- developing models to estimate annual changes in pollination effort;
- developing Supply and Use tables to understand how natural capital feeds through to the rest of the economy;
- experimental estimates of the physical and mental benefits of outdoor recreation;
- updating our air pollution removal models;
- producing the first UK Extent and Condition Accounts which describe the areas of different habitats and their environmental condition;
- developing methods to estimate the physical degradation of natural assets separate from the expected flow of value.

We anticipate undertaking further work which would contribute to the response to the Review in the coming years. We intend to publish an updated UK natural capital accounts roadmap later in 2022 to give stakeholders clarity about our plans.

How could Professor Dasgupta's conception of 'inclusive wealth' be made operational as an economic measure?

Professor Dasgupta's proposals would enable us to understand whether, for example, cutting down a woodland to build a school delivers a net gain or a net loss to society's 'inclusive wealth'. Operationalising this is likely to mean bringing together high-quality measures of capital stocks capturing productive, human capital and natural capital, as a minimum⁹. We are working with academics to develop our initial work on a single statement of the overall stock of capital assets, beyond the usual limits of the National Balance Sheet, a part of the National Accounts.

⁹ Social capital is generally seen in this framework as an enabling asset that contextualises values attributed to the other capitals.

However, current statistics face some noticeable challenges in fully delivering Professor Dasgupta's vision. In particular, the 'accounting prices' concept¹⁰ proposed in the Review is methodologically and operationally complex.

There are also practical considerations, as inclusive wealth encompasses and extends beyond economic activity covered in the National Accounts. As the Spectrum framework shows, measuring the UK's inclusive wealth would radically extend beyond existing frameworks for the three capitals and expand on stock-flow consistent accounting found in the National Accounts.

To address this, the ONS is commissioning research from leading academics via ESCoE and engaging with other National Statistics Institutes and other International Organisations.

How is the Office for National Statistics' work on the measurement of national well-being and on the development of natural capital accounts contributing to the development of the Government's macro-economic policy?

Government departments are best placed to advise how they use ONS outputs to inform their decision-making. However, we regularly engage with users across government to understand their needs in relation to the statistics produced.

To what extent is the preparation of the UK's national accounts governed by international standards for national government accounting? In the light of the Kunming Declaration of October 2021, what prospects are there for reform of the United Nations System of National Accounts (SNA) to assign greater importance to natural capital?

The UK produces its National Accounts in line with recognised international guidance developed by the UN and partner organisations, the System of National Accounts (SNA) (2008). As a key objective is maintaining international coherence and consistency so that statistics are reliable and comparable, we would not wish to change UK guidelines ahead of common international guidance.

However, international guidance is evolving at a rapid pace and the UK is actively engaged in this process. There has been intensive work internationally in recent years to both develop additional guidance on how to value natural assets and services in the form of the SEEA¹¹, and how this interacts with the SNA to ensure consistency.

The first commitment in the Kunming Declaration is to "*implement an effective post-2020 Global Biodiversity Framework*". Current drafts of that framework draw on the UN SEEA Ecosystem Accounts framework which underpins the Natural Capital Accounts. In that respect, satellite natural capital accounts will play an important role on this commitment. However, as most countries are yet to develop such satellites accounts, even under existing guidance, this commitment should also provide support for the wider development of natural capital accounts globally, and so a closer relationship between those accounts and the SNA methods. We are actively sharing our learnings on developing natural capital accounts with other countries.

¹⁰ Accounting Prices internalise the values of any externalities (positive or negative) inherent in observed transactions. In simple terms, the costs of carbon emissions from burning coal to produce electricity would be added to the price of electricity to consumers and businesses in the analysis so the full impact of decisions can be observed. This would be challenging as a large number of adjustments would need to be prioritised and calculated (should we address the health costs resulting from tobacco consumption for example), and other prices may already capture some component of these costs (in our coal example, if green taxes are applied to electricity producers we would need to calculate if these have fully accounted for the costs of pollution), which would need to be stripped out.

¹¹ System of Environmental-Economic Accounting 2012: Central Framework – final, official publication 2012, UN, EC, IMF, OECD and World Bank System of Integrated Environmental and Economic Accounting, United Nations, European Commission, International Monetary Fund, Organisation for Economic Co-operation and Development and World Bank 2012 https://unstats.un.org/unsd/envaccounting/seeaRev/SEEA_CF_Final_en.pdf

In addition to the SEEA agenda, the UN is leading work to update the SNA, including a focus on better alignment with environmental and other data. Following investment via the Bean Review and the development of world-leading research capability both in ONS and ESCoE, the UK is one of a small number of countries who have been invited to be active in all of the relevant UN-run task-teams considering changes to the SNA and recent SEEA revisions.

These include addressing sustainability and well-being. The ONS is working to ensure changes to the guidance work which enable us to address the key challenges we have described above. Some changes could have significant effects, but current indications are that there is a strong international consensus to include either natural or human capital within the National Accounts.

How might the public, businesses, financial institutions, and the financial system react to any move away from GDP as the primary indicator of prosperity? What challenges could this present for policymakers, and how might these be overcome?

There are likely to be many different interpretations of ‘prosperity’. In some cases, GDP may well be the most appropriate measure, but other users may find other new and complementary measures better fit their needs, such as a new measure of stocks, such as inclusive wealth or measures of the flows of welfare arising from this wealth, like those developed by the ONS as part of its Spectrum framework¹².

Others may interpret ‘prosperity’ as better represented by wider measures of multiple data sources, covering economic, environmental, and social progress, such as may be represented by national wellbeing measures and the SDGs.

In all cases regular and as timely as possible publication of such statistics is required to inform debate and meet user needs. While the ONS’ ability to produce multiple high-quality measures is limited by its resources, we would be keen to gather wider stakeholder views on a common set of methods, data, statistics, and analysis to support as many users’ needs as possible.

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¹² <https://www.escoe.ac.uk/publications/gdp-and-welfare-empirical-estimates-of-a-spectrum-of-opportunity/>

Annex A: ONS & measures of progress

The ONS has engaged with stakeholders, such as the OECD, to develop well-being measures, and in 2010 launched a four-year Measuring National Wellbeing (MNW) development programme to establish “an accepted and trusted set of National Statistics, which help people to understand and monitor national wellbeing”, after a national consultation. This framework, with 41 indicators across 10 domains, including the environment, has been used as the basis for proposals by a number of organisations, e.g. Carnegie UK Trust’s report *Gross Domestic Wellbeing (GDWe): An alternative measure of social progress* (Nov 2020).

We have also developed measures of personal wellbeing¹³ for the UK, known as the ‘ONS 4’. These questions cover a respondents’ life satisfaction, whether they feel things done in life are worthwhile, happiness yesterday and anxiety yesterday. We have published Personal and Economic Well-being on a quarterly basis alongside economic outputs, and as a response to the coronavirus pandemic are now publishing wellbeing data from the ONS’ Opinions & Lifestyle Survey on a two-weekly basis^{14,15,16}.

The ONS was heavily involved in developing indicators for the UN Sustainable Development Goals (SDGs) which bring the economic, environmental, and social dimensions together. We lead on UK reporting as required by the SDG framework through a world-leading reporting platform¹⁷, based on OpenSDG which the ONS developed with US partners and is currently used by over 30 countries, cities and regions globally. We have also continued to focus on our user research programme to understand and meet user needs¹⁸ and these activities have informed developments to both the UK website and Open SDG. As of December 2021¹⁹, the UK platform is currently reporting on 83% of the 247 global SDG indicators, and we are currently testing approaches to measuring progress on the SDGs, a need identified by national and international stakeholders.

The ONS launched the prototype UK Climate Change Statistics Portal²⁰ in October 2021, ahead of the COP26 UN climate talks. We worked closely with analysts from across a range of government departments to bring key climate change statistics into one place for the first time. The Portal is a ‘one-stop shop’ for climate change related statistics, including drivers like energy use and emissions levels, and provides clear, accessible, and accurate information.

Our economic statistics research team has also published theoretical and empirical papers, including developing the Spectrum ‘Beyond GDP’ framework²¹, which seeks to bring in natural and human capital to deliver a measure of economic welfare that builds on the National Accounts²². This work has been undertaken in partnership with the Economic Statistics Centre of Excellence (ESCoE), an academic research centre hosted by the National Institute of Economic and Social Research and delivered in collaboration with the ONS.

¹³ <https://www.ons.gov.uk/peoplepopulationandcommunity/wellbeing>

¹⁴ <https://www.ons.gov.uk/peoplepopulationandcommunity/wellbeing/bulletins/personalandeconomicwellbeingintheuk/may2021>

¹⁵ <https://www.ons.gov.uk/peoplepopulationandcommunity/wellbeing/bulletins/personalwellbeingintheukquarterly/april2011tojune2021>

¹⁶ <https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/healthandwellbeing/datasets/coronavirusandthesocialimpactsongreatbritaindata>

¹⁷ <https://www.sdqdata.gov.uk>

¹⁸ <https://sdqdata.gov.uk/user-personas/>

¹⁹ <https://www.ons.gov.uk/economy/environmentalaccounts/articles/sustainabledevelopmentgoalstakingstockprogressandpossibilities/december2021>

²⁰ <https://climate-change.data.gov.uk>

²¹ <https://www.escoe.ac.uk/publications/gdp-and-welfare-a-spectrum-of-opportunity>

²² <https://www.escoe.ac.uk/publications/gdp-and-welfare-empirical-estimates-of-a-spectrum-of-opportunity>