



Task Force 6
Accelerating SDGs: Exploring New
Pathways to the 2030 Agenda



MONITORING OFFSHORE ENVIRONMENTAL IMPACTS OF TRADE

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Abstract




‘ Offshore impacts’ are the environmental consequences of production and trade in places other than where these commodities are consumed. Consideration of such impacts in policy frameworks has emerged only recently. Frameworks to monitor overseas environmental impacts are critical to mitigating climate change and biodiversity loss but remain fragmented and underused. Key barriers relate to the *coherence* of these frameworks and governments’ capacity

to facilitate their *uptake*. The G20, comprising the most significant trading nations, is in an unparalleled position to address these barriers through a small number of strategic interventions. This Policy Brief recommends that the G20 uses its influence to promote international awareness and uptake of existing frameworks and programmes, enhance data disclosure, build capacity in government organisations, and collaborate with other countries to develop and disseminate monitoring best practices.



The Challenge



1



Goal 12 of the United Nations Sustainable Development Goals (SDGs) seeks to promote “sustainable consumption patterns”. Yet, as the *Sustainable Development Report 2022*¹ demonstrates, achieving sustainable consumption requires taking into account offshore impacts of production and trade that occur in places other than where commodities are consumed. For many countries, such impacts vastly exceed the domestic consequences of consumption.

Unless countries take responsibility for their total environmental footprint, efforts to improve sustainability of domestic production are likely to be outweighed by, or could even exacerbate, degradation elsewhere. The concept aligns perfectly with the principles of responsible and sustainable consumption behaviours emphasised by the Lifestyle for Environment (LiFE) campaign, highlighted in the G20 theme of ‘One Earth, One Family, One Future’.

One striking example of offshore impacts of consumption is in trade of agricultural commodities. This trade is the mainstay of many economies, including developing nations, with about

US\$ 1.9 trillion of such commodities traded internationally in 2021.² Yet agricultural commodities are also one of the most significant drivers of environmental degradation globally. A recent study estimated that more than 90 percent of all deforestation in the tropics can be linked to agriculture.³

Offshore impacts have only recently been recognised in formal policy processes. Since the New York Declaration on Forests in 2014, voluntary commitments by companies and governments to reduce or eliminate deforestation have proliferated, although their effectiveness has been questioned.⁴ More recently, there has been regulatory action, including in the EU,⁵ the UK,⁶ and the US,⁷ which have mandated due diligence by companies that import commodities linked to deforestation.

To actively reduce offshore impacts, countries first need to understand them. Within the SDG framework, only one indicator explicitly attempts to capture them—i.e., the Material Footprint (MF). This quantifies the materials that underpin economic activity and indicates how efficiently they are being used to generate growth. However, MF offers only a crude

proxy for environmental degradation and is inadequate for assessing the sustainability of resource use.

Target 16 of the post-2020 Biodiversity Framework formulated under the UN Convention on Biological Diversity (CBD), seeks to “reduce the global footprint of consumption in an equitable manner”.⁸ The framework improves on consumption-based monitoring by incorporating four ‘component’ indicators. Besides the MF, two others provide important additional information on trade-linked impacts – the Ecological

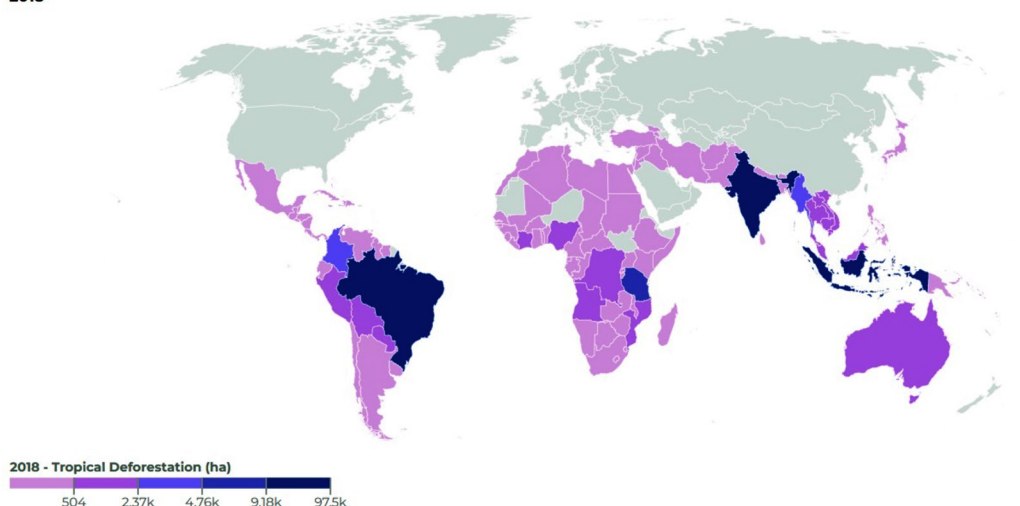
Footprint (EF)⁹ and the Global Environmental Impacts of Consumption Indicator (GEIC).^{10,11} The EF considers holistically whether consumption-driven resource use is sustainable within the limits of the Earth’s bio-capacity, while the GEIC provides metrics to estimate the pressures on biodiversity, deforestation (and associated carbon emissions) and water resources associated with internationally traded agri-commodities (see Figure 1).

The indicators may be useful for capturing high-level drivers and

Figure 1: Location and Magnitude of India’s Tropical Deforestation Footprint According to the GEIC

TROPICAL DEFORESTATION (HA)
BY CONSUMPTION FLOWS

2018



India’s economy is linked to 97,500 hectares of tropical deforestation in India itself and another 138,500 hectares overseas (mostly in Indonesia, which is mostly explained via a dependency palm oil - but also in Brazil, explained by demand for cattle and soybean). The offshore impacts of other G20 nations are proportionally far higher (See Appendix for additional footprint information for G20 nations).

Source: <https://commodityfootprints.earth>.¹²

trends, but more granular information is required to understand better how different commodities, sectors and actors contribute to offshore impacts. This can help better inform policies and thereby deliver on sustainability goals.

In recent years, the science-base for understanding environmental impacts of commodity production and trade has grown significantly. Increased remote sensing information from satellites provides data on land-use change at high spatial and temporal resolution, which is accessible through software platforms such as the World Resources Institute's Global Forest Watch.¹³ Beyond creating new datasets, better uses of existing data have also been found. The Trase initiative¹⁴ uses an array of existing data to map commodity supply chains and deforestation, linking importing countries and markets, and individual traders, to specific sourcing regions and localised impacts. Similar initiatives are emerging to map mining activities.¹⁵ Alongside, there are moves to encourage greater disclosure and accountability from supply chain actors themselves, spearheaded by international non-

government organisations (NGOs) within the Accountability Framework Initiative.¹⁶

Against this backdrop, two key challenges remain: increasing *coherence* across monitoring systems, and promoting *uptake* of information by policymakers and other practitioners.

There is urgent need for greater standardisation and alignment of the definitions used in monitoring, the types of data used for decision-making, and the ways data is collated and harmonised. Plenty of data in complex forms is available, but decision-makers lack the tools to absorb, interpret and act on it.


Without concerted action, policies to tackle the environmental impacts of consumption will continue to fall far short of related SDG and CBD commitments. Even so, a small number of straightforward interventions—which the G20 countries are in an excellent position to promote—could tip the balance towards more effective and actionable monitoring systems.



The G20's Role

2





The G20 is in a prime position to address the offshore impacts of trade and consumption. First, G20 nations are active participants in—and beneficiaries of—the majority of commodity supply chains linked to key sustainability concerns, and have great political and diplomatic leverage to influence their governance. Second, statistical agencies in G20 countries provide most of the data that underpins monitoring efforts. Major corporations involved in international supply-chains are also primarily domiciled in G20 states, and are critical for providing data and taking action to make supply chains more sustainable. Third, G20 economies have substantial science budgets and world-leading research capacity; they have the expertise to fill data gaps and lead efforts to draw together disparate data, making it usable for decision-makers.


Coherence

To promote coherence across monitoring systems, the G20 should ensure that definitions of *what* is monitored are well defined, understood and agreed upon. If policies use definitions ill-matched to those used in monitoring, it could significantly hinder policy implementation, because

the efficacy of a policy depends on information that aligns with its scope and objective. For example, in ‘due diligence’ legislation that several countries, as well as the EU, have either adopted or are discussing, the UN Food and Agriculture Organization’s (FAO) definition of ‘forests’ is used to ensure alignment with international conventions and reporting processes. However, within the scientific community, the remote-sensing products currently available to monitor ‘forest loss’ do not readily align with this definition.

Monitoring biodiversity is even more complex: no single, holistic measure exists, given its multifaceted nature, yet hundreds of biodiversity-related indicators, tools and methods have been developed with little standardisation around uptake. Many initiatives also focus on aligning sustainability metrics and evaluation frameworks, including the Science Based Targets Network¹⁷ and the Task Force on Nature Related Financial Disclosure.¹⁸ Because these initiatives have many contributors from G20 nations, the G20 is in a strong position to endorse them and drive greater uptake.

There are also opportunities for statistical agencies to enhance



existing datasets to make them more useful. Most international trade-based assessments use a combination of FAO and UN Comtrade databases, or derivations thereof. Yet the classification schemes used in these datasets are often not granular enough to effectively allocate the impacts (positive or negative) of production or processing activities to downstream consumption. The reporting codes used to classify materials need to be disaggregated so that customs agencies can provide more granular data.

Customs agencies also need to disclose more of the information that they collect, such as the trade volumes associated with named importing or exporting entities—details often protected by competition law. Greater disclosure would lead to greater transparency in international trade, enabling governments and third parties to better assess compliance with trade-linked environmental regulations and progress against broader sustainable consumption targets.

Further, where no national statistical records on production and trade of agricultural materials can be obtained, the FAO often estimates data based on unofficial sources, which reduces

confidence in its results.¹⁹ Initiatives to improve data collection require further promotion and support. National statistics agencies and others that collect data, such as the FAO, need enough funding to ensure that commonly relied on datasets are as robust as possible.

It is challenging to promote coherence in a landscape where ownership of data is scattered across public and private institutions and is often not transparent enough.²⁰ In the UK, the Global Resource Initiative²¹ highlighted the need for coherent monitoring that would allow policymakers to pinpoint areas of highest environmental concern, before more granular assessments ascertain whether supply chain activities are concretely linked to environmental harm. Importantly, the provision of company-specific information in production landscapes, and other fine-scale evidence, would enable assessment of how far policies have meaningful real-world impact on practice. Figure 2 conceptualises such a monitoring framework. Platforms such as the Accountability Framework Initiative,²² the Forest, Agriculture and Commodity Trade (FACT) Dialogue²³ (co-chaired by the UK and Indonesia), the Forest Data Partnership²⁴ (co-chaired

by the FAO and the World Resources Institute (WRI)) and the Consumer Goods Forum Forest Positive Coalition²⁵ are established forums for discussions on data collection and alignment.

Compilation of data within such a framework requires improved disclosure from the private sector, and alignment around definitions and methods. While this figure illustrates the potential *spatial* scale of data requirements, assessments of risk, impacts and response may require other forms of more granular information (e.g.

company or supply chain specific data as opposed to data from trade records; real-time information versus annual statistics). G20 stakeholders already provide extensive input to established platforms that promote the development of coherent monitoring frameworks.

Uptake

Currently, in policymaking, uptake of data lags a long way behind policy commitments. According to a recent Organisation for Economic Co-operation and Development (OECD) report,²⁷ despite growing recognition

Figure 2: A Model for the Holistic Assessment of Risk, Impacts and Response in Supply-Chain Systems

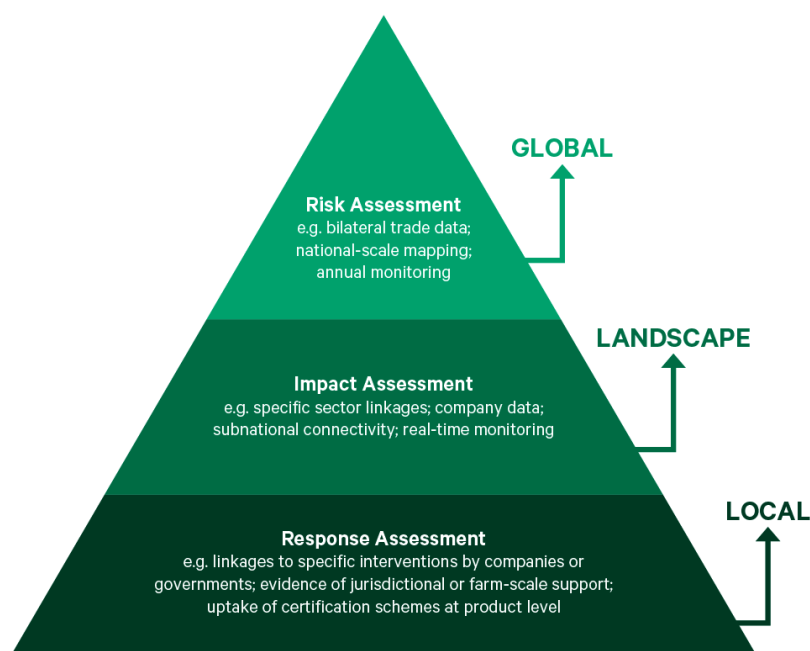


Illustration of different data 'granularity' requirements

Source: Adapted from the UK Global Resource Initiative.²⁶



of the role of trade in environmental impacts, only 40 percent of regional trade agreements covering goods and services contain provisions on the environment. Sweden²⁸ and the UK²⁹ recently started incorporating consumption-based environmental accounts into their national statistics, but these efforts remain experimental. Although linked to policy commitments such as the Swedish Generational Goal and the UK's 25-year Environment Plan, respectively, they are far from embedded across domestic policy processes.

It may take time to incorporate newer data and methods into policymaking. However, a fundamental challenge is the complexity of available data (such as assumptions incorporated in modelled assessments, or the sheer volume of data or metrics available), which makes it difficult for policymakers to absorb and use it. Large private corporations may have dedicated science teams able

to digest and analyse vast quantities of information, but this is often a 'closed-source', unavailable to policymakers. As a group of the world's leading developed economies, it is incumbent on the G20 to build government capacity to understand the challenges associated with consumption, and to adequately accommodate related data within policy. It should also be a priority to share good practices across G20 members and beyond, to spread the burden and build mutual understanding of the challenges.


The G20 can also provide much needed resources for sharing lessons between lower- and higher-income countries on how best to collate, align, and fill gaps in data. The environmental impacts of agricultural production are often most acute in lower-income regions, so any such investment will also result in improved monitoring outcomes for the G20 states themselves.



Recommendations to the G20

3






It is vital to minimise the negative offshore environmental impacts of consumption and trade, and to promote trade as an enabler of sustainable development. Monitoring plays a key role. The following are suggestions on how the G20 can improve monitoring systems and promote their uptake:

1. Establish a Working Group dedicated to international monitoring of offshore impacts. This would build on recommendations of the G20 Resource Efficiency Dialogue, which has been supported at a high political level. Such a group would promote shared priorities for assessing sustainability risks linked to commodity trade, including biodiversity loss, deforestation, land degradation and impacts on vulnerable actors. The group should aim at aligning key definitions and methods in a manner that promotes inclusion and legitimacy, and help to embed information on consumption and material flows, and information disclosed by industry, into national and G20-scale monitoring systems (see Figure 2). The group can draw on expertise from established programmes and the scientific

community from across G20 nations, and connect to existing G20 Working Groups (e.g. the one on Environment and Climate Sustainability, and on Trade and Investment).

2. Motivate statistics agencies, government departments and the private sector to improve data disclosure. It should be a priority to improve existing data systems, such as the UN Comtrade and FAO systems, especially to disaggregate classification schemes. Efforts should be made to publicly release more detailed information on companies involved in trade that have been already captured, for example, in customs records. Voluntary, and where appropriate mandatory, mechanisms for corporate disclosure would allow fine-scale assessment of threats and solutions in production landscapes. Such mechanisms can be built on existing platforms and initiatives (e.g. the Consumer Goods Forum's (CGF) Forest Positive Coalition). There should be investment in the data-science solutions needed to make new and existing datasets interoperable, as part of a more coherent monitoring system.



3. Build capacity in G20 nations' civil services, statistics agencies, competent authorities, and in industry. Government capacity to use information on offshore impacts is currently low. Capacity building is required to ensure existing and new data is used to its full potential, and to effectively support existing voluntary and regulatory compliance systems. This includes working with leaders in the private sector to understand best practices. Where private sector capacity is low (e.g. in particular sectors or regions, or in small and medium sized enterprises) there is a need for technology and knowledge transfer to enhance monitoring. The potential for legal mechanisms to promote data sharing and overcome gaps in transparency should be explored.

4. Work with other nations to share lessons learned and best practices in monitoring. The G20 has significant political and diplomatic leverage, as well as highly advanced data science and statistics collection systems. It should use these to share monitoring best practices and lessons learned – be it within the G20, or from its trade partners and science base. As a priority, it needs to exchange knowledge with lower-income countries to ensure their economic development does not cause offshore impacts the way the G20 nations' development did. This means providing them technical and financial resources to strengthen capacity, including their ability to effectively engage with trading partners.

Attribution: Chris West et al., "Monitoring Offshore Environmental Impacts of Trade," *T20 Policy Brief*, June 2023.

Appendix

G20 countries (including individual members of the EU), their domestic and overseas tropical and subtropical deforestation footprints in 2018 are shown in Table A1, sourced from the GEIC Indicator¹⁰. The last column gives the estimated date in 2023 on which each country's consumption leads it to 'overshoot' its fair share of the world's available bio-capacity; derived from the Ecological Footprint.³⁰ Countries are listed in alphabetical order. The last column says 'none' if the country does not have an overshoot day because its consumption is below the global fair share. Columns say 'not obtainable' when a country's consumption is not currently covered by the GEIC Indicator.

Table A1

Country	Domestic tropical and subtropical deforestation footprint, 2018 (hectares)	Overseas tropical and subtropical deforestation footprint, 2018 (hectares)	Total tropical and subtropical deforestation footprint, hectares (2018)	Date on which country's consumption will exceed a fair share of available bio-capacity (2023)
Argentina	Not obtainable	Not obtainable	Not obtainable	24 June
Australia	86,530	19,199	105,729	23 March
Austria	0	4,020	4,020	6 April
Belgium	0	18,209	18,209	26 March
Brazil	1,231,754	20,646	1,252,401	12 August
Bulgaria	0	1,102	1,102	9 June
Canada	0	17,796	17,796	13 March
China	0	463,646	463,646	2 June
Croatia	0	696	696	29 May
Cyprus	91	293	384	31 May
Czech Republic	0	2,474	2,474	12 April
Denmark	0	3,938	3,938	28 March
Estonia	0	1,171	1,171	14 March
Finland	0	2,597	2,597	31 March
France	0	50,091	50,091	5 May

Country	Domestic tropical and subtropical deforestation footprint, 2018 (hectares)	Overseas tropical and subtropical deforestation footprint, 2018 (hectares)	Total tropical and subtropical deforestation footprint, hectares (2018)	Date on which country's consumption will exceed a fair share of available bio-capacity (2023)
Germany	0	57,792	57,792	4 May
Greece	0	4,148	4,148	21 May
Hungary	0	2,093	2,093	30 May
India	97,495	138,110	235,605	None
Indonesia	420,097	20,330	440,427	3 Dec
Ireland	0	4,507	4,507	21 April
Italy	0	41,453	41,453	15 May
Japan	2,756	66,152	68,908	6 May
Latvia	0	607	607	1 April
Lithuania	0	750	750	7 April
Luxembourg	0	2,451	2,451	14 February
Malta	0	284	284	16 April
Mexico	2,4159	14,323	38,482	31 August
Netherlands	0	21,851	21,851	12 April
Poland	0	8,930	8,930	2 May
Portugal	0	5,502	5,502	7 May
Republic of Korea	0	38,604	38,604	2 April
Romania	0	2,645	2,645	11 June
Russia	0	29,456	29,456	19 April
Saudi Arabia	Not obtainable	Not obtainable	Not obtainable	27 April
Slovakia	0	1,092	1,0912	3 May
Slovenia	0	1,108	1,108	18 April
South Africa	24,867	10,865	35,731	1 June
Spain	0	40,123	40,123	12 May
Sweden	0	5,674	5,674	3 April
Türkiye	21,029	16,158	37,187	22 June
United Kingdom	0	35,977	35,977	19 May
United States of America	0	217,244	217,244	13 March

Endnotes

- 1 Jeffrey D. Sachs et al., Sustainable Development Report 2022. (2022). <https://dashboards.sdgindex.org/>
- 2 FAO, “FAOSTAT.” <https://www.fao.org/faostat/en/>
- 3 Pendrill et al., “Disentangling the Numbers behind Agriculture-Driven Tropical Deforestation.” *Science* 311, no. 6611 (2022). DOI: 10.1126/science.abm9267
- 4 NYDF Assessment Partners, “Protecting and Restoring Forests: A Story of Large Commitments yet Limited Progress. New York Declaration on Forests Five-Year Assessment Report.” (2019). <https://climatefocus.com/publications/nydf-2019-progress-report-protecting-and-restoring-forests/>
- 5 Council of the European Union, “Proposal for a Regulation of the European Parliament and of the Council on the Making Available on the Union Market as Well as Export from the Union of Certain Commodities and Products Associated with Deforestation and Forest Degradation and Repealing Regulation (EU) No 995/2010.”
- 6 HM Government, “UK Environment Act 2021 SCHEDULE 17 Use of Forest Risk Commodities in Commercial Activity.” <https://www.legislation.gov.uk/ukpga/2021/30/schedule/17/enacted>
- 7 US Congress, “S.2950 - FOREST Act of 2021.” <https://www.congress.gov/bill/117th-congress/senate-bill/2950>
- 8 Convention on Biological Diversity, “Nations Adopt Four Goals, 23 Targets for 2030 In Landmark UN Biodiversity Agreement”. https://prod.drupal.www.infra.cbd.int/sites/default/files/2022-12/221219-CBD-PressRelease-COP15-Final_0.pdf
- 9 Mathis Wackernagel and William E. Rees, “Our Ecological Footprint: Reducing Human Impact on the Earth”. (Philadelphia: New Society Publishers, 1998)
- 10 Croft et al., “Technical Documentation for an Experimental Statistic Estimating the Global Environmental Impacts of Consumption: 2022 Version.” ISSN 0963-9091. (Peterborough, UK, 2022). <https://hub.jncc.gov.uk/assets/7a4063c9-a221-4ca1-ab6a-3b2fae544b32>
- 11 Aside from the Material Footprint, the ‘Food Waste Index’ constitutes the fourth component indicator adopted under Target 16, but this indicator does not relate to trade-related impact assessment.
- 12 Commodity Footprints, “Commodity Footprints.” <https://commodityfootprints.earth/>
- 13 WRI, “Global Forest Watch.” <https://www.wri.org/initiatives/global-forest-watch>
- 14 Trase, “Trase.” <https://www.trase.earth/>
- 15 Victor Maus et al., “An Update on Global Mining Land Use.” *Scientific Data* 9, no. 433 (2022). <https://doi-org.ezp.sub.su.se/10.1038/s41597-022-01547-4>

- 
- 16 Accountability Framework Initiative, “Accountability Framework Homepage.” <https://accountability-framework.org/>
 - 17 SBTN, “Science Based Targets Network.” <https://sciencebasedtargetsnetwork.org/>
 - 18 TNFD, “TNFD – Taskforce on Nature-Related Financial Disclosures.” <https://tnfd.global/>
 - 19 FAO, “Statistical Standard Series: Imputation”, 2019. <https://www.fao.org/3/cb9339en/cb9339en.pdf>
 - 20 Toby Gardner et al., “Transparency and Sustainability in Global Commodity Supply Chains.” *World Development*, 121 (2019), 163-177, <https://doi.org/10.1016/j.worlddev.2018.05.025>.
 - 21 UK GRI, “Global Resource Initiative Final Recommendations Report.” <https://www.gov.uk/government/publications/global-resource-initiative-taskforce>
 - 22 Accountability Framework Initiative, “Accountability Framework Homepage.”
 - 23 FACT Dialogue, “FACT Dialogue.” <https://www.factdialogue.org/>.
 - 24 Forest Data Partnership, “Forest Data Partnership.” <https://www.forestdatapartnership.org>
 - 25 Consumer Goods Forum, “Forest Positive Coalition - Create a Forest Positive Future for the Planet.” <https://www.theconsumergoodsforum.com/environmental-sustainability/forest-positive/>
 - 26 UK GRI, “Global Resource Initiative Final Recommendations Report.”
 - 27 Christophe Bellmann and Alena Bulatnikova. *Incorporating Environmental Provisions in Regional Trade Agreements in Chapters and Articles Dealing with Trade in Services*. (Paris: OECD, 2022). <https://doi.org/10.1787/6e976798-en>
 - 28 Statistics Sweden, “Greenhouse Gas Emissions from Swedish Consumption Decreased in 2020.” <https://www.scb.se/en/finding-statistics/statistics-by-subject-area/environment/environmental-accounts-and-sustainable-development/system-of-environmental-and-economic-accounts/pong/statistical-news/environmental-accounts--environmental-pressure-from-consumption-2020/>
 - 29 Defra, “17: Global Biodiversity Impacts of UK Consumption.” (2023) <https://www.gov.uk/government/statistics/england-biodiversity-indicators/17-global-biodiversity-impacts-of-uk-consumption>
 - 30 Earth Overshoot Day, “Country Overshoot Days 2023.” <https://www.overshootday.org/newsroom/country-overshoot-days/>



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