Working Paper **28 October 2022**

Towards a Sound Measure of Government Efforts and Commitments for the SDGs?

An overview of policy tracking approaches, tools, frameworks, and major findings in the context of the SDGs and Paris Climate Agreement

Guillaume Lafortune[1], Finn Woelm[2] and Rosalie Valentiny[3]

[1] VP & Head of Paris Office, UN Sustainable Development Solutions Network (SDSN), France
[2] Coordinator, Data Science and Research, UN Sustainable Development Solutions Network (SDSN), France
[3] Junior Analyst, UN Sustainable Development Solutions Network (SDSN), France

Abstract

Unlike other great transformations of the past, sustainable development requires long-term directed change. This working paper discusses and compares methods and tools that can be used to track policies related to the Sustainable Development Goals (SDGs), including the principle of Leave-No-One-Behind (LNOB). Due to time lags in international statistics, outcomes-based assessments – such as the SDG Index produced by the SDSN – often provide a snapshot of SDG performance as of two or three years ago (and sometimes more). The extrapolation of past growth rates to predict whether countries are on-track or off-track may not provide a fair representation of ambitious policies and investments instituted by countries, especially when there is a change of government. As such, tracking policy commitments, ambitions and actions are effective ways to complement outcomes-based assessment and provide timelier, more accurate evaluations of government efforts on the SDGs. However, the conceptual and technical work required to build sound policy trackers requires extensive thematic and geographic expertise which makes the development of sound and robust policy trackers challenging. Many fail to estimate the gap between rhetoric and action. This Working Paper (WP) provides examples of best practices in policy tracking from various sources, discusses tools that can help analyse large policy documents and tries to identify future priorities for making governments accountable for adopting and implementing sound, ambitious SDG policies and investment frameworks. It also calls for greater linkages between government efforts for the SDGs and access to financing, especially in Least Developed Countries (LDCs).

About the SDSN

The UN Sustainable Development Solutions Network (SDSN) mobilises scientific and technical expertise from academia, civil society, and the private sector to support practical problem-solving for sustainable development at local, national, and global scales. The SDSN has been operating since 2012 under the auspices of the UN Secretary-General. The SDSN builds national and regional networks of knowledge institutions, solution-focused thematic networks, and the SDG Academy, an online university for sustainable development.

The views expressed in this working paper may not represent the views of the SDSN Leadership Council and President. We thank the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH on behalf of the German Federal Ministry for Economic Cooperation and Development (BMZ) and countryrisk.io, Bernhard Obenhuber and Jennifer Asuncion for financially supporting SDSN's work on SDG policies and data.

Table of Contents

Experts consulted:

Grant Cameron
Director, Thematic Research Network on Data and Statistics (TReNDS), UN Sustainable Development Solutions Network (SDSN)

Cecil Haverkamp
Director, FELD (Food, Environment, Land and Development) Action Tracker, UN Sustainable Development Solutions Network (SDSN)

Maren Bernlöhr
Global Policy Advisor, Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH on secondment to SDSN

Salma Dahir
Economist, Global Commons Stewardship Index (GCSI), UN Sustainable Development Solutions Network (SDSN)

Eamon Drumm
Senior Programme Officer, SDG Transformation Centre, UN Sustainable Development Solutions Network (SDSN)

Some of the data presented in this working paper was collected in cooperation with SDSN's global network of research institutions and scientists via our annual "Government Efforts Survey for the SDGs". We thank all our networks and experts for their support. The paper also benefited from regular exchanges with the European Commission, including the Joint Research Centre.

Comments and feedback can be addressed to Guillaume Lafortune (guillaume.lafortune@unsdsn.org).

List of Abbreviations

AI: Artificial intelligence

FELD: Food, Environment, Land and Development Programme

HLPF: High Level Political Forum

IAM: Integrated Assessment Model

IGS: Independent Group of Scientists

LDC: Least Developed Country

LNOB: Leave-No-One-Behind

MDG: Millennium Development Goal

NDC: Nationally Determined Contributions

NLP: Natural Language Processing

OECD: Organization for Economic Cooperation and Development

PT: Policy Tracker

SDG: Sustainable Development Goal

SDSN: Sustainable Development Solutions Network

SGI: Sustainable Governance Indicators

SIDS: Small Island Developing States

VNR: Voluntary National Review

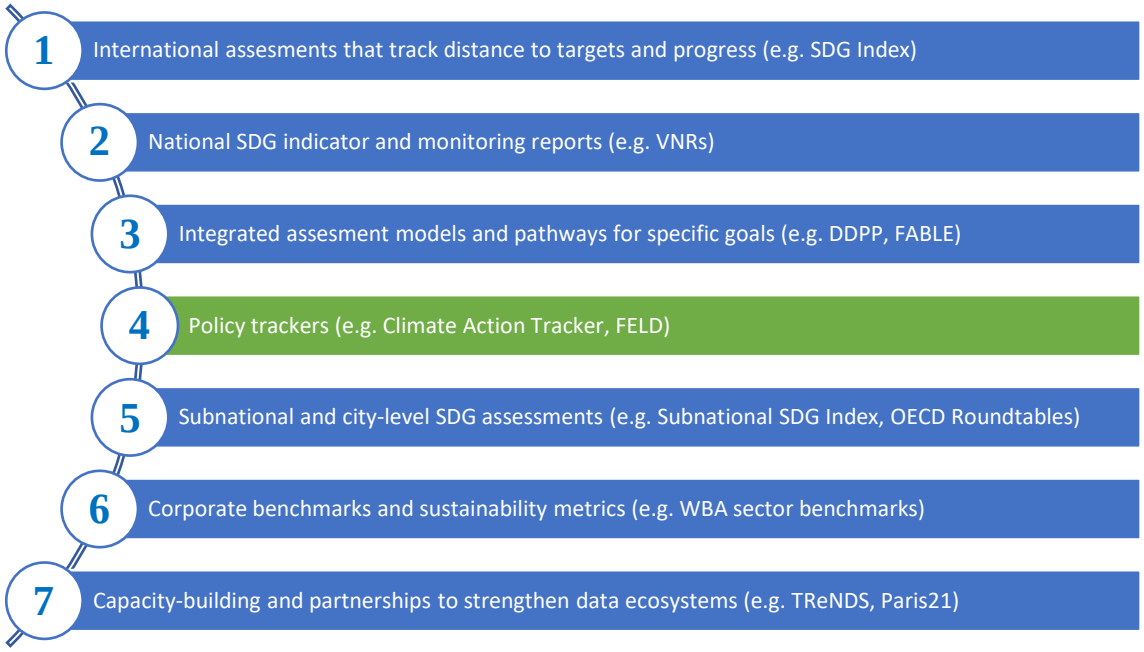
UN: United Nations

Introduction

Good data and statistics are crucial to making progress on the Sustainable Development Goals (SDGs) (ODI, 2018). They help policy makers identify challenges and gaps, enable the public to hold governments accountable, allow for data- and evidence-based decision-making and help identify best practices (OECD, 2020b).

Unlike the Millennium Development Goals (MDGs), the SDGs place a key emphasis on data, monitoring and evaluation (Sachs et al., 2021; UNECE, 2021). Shortly after the adoption of the SDGs, the United Nations Statistical Commission created the Inter-Agency and Expert Group on SDG Indicators to develop the global indicator framework for measuring and tracking progress on the 2030 Agenda (UN Statistics Division, 2021). Furthermore, the 2030 Agenda encourages countries to regularly review their own progress, data, and policies via a mechanism called "Voluntary National Reviews (VNR)" (UN, 2015) which are presented by around 40 countries every year at the High-Level Political Forum (HLPF). An Independent Group of Scientists (IGS) was appointed to prepare the Global Sustainable Development Report every three-years and Heads of States meet every four years to review progress on the SDGs and define priorities.

In 2020, the SDSN identified seven major types of SDG data initiatives at the international level (Sachs et al, 2020). These include:



This working paper focuses on the fourth category: policy trackers (PT). Unlike other great transformations of the past, sustainable development requires long-term directed change (Lafortune & Schmidt-Traub, 2019). This can only be achieved through transformative actions and policies. Compared with outcomes-based assessments – like the SDG Index – policy trackers focus on evaluating the level of ambition of indicators on inputs (investments, subsidies, taxes, personnel) and processes (strategies, policies, action plans). They tend to rely more on qualitative information. They can be used to track commitments

made by countries (e.g., those made in international conferences and meetings such as the COP Climate, G7, G20 etc.) and the integration of these commitments into domestic policies and investments. The Climate Action Tracker, for instance, evaluates whether Nationally Determined Contributions (NDCs) are ambitious enough to achieve the objectives set in the Paris Climate Agreement (Climate Action Tracker, 2022a). Many other policy trackers emerged since 2020 to track emergency responses but also how green or inclusive COVID-19 recovery plans were (IMF, 2021; OECD, 2020a; Oxford, 2022).

Policy trackers can nicely complement other SDG tracking initiatives and address some of their shortfalls for the following reasons:

- A change of government would not immediately affect a country's SDG Index score, even though the policy environment might have changed significantly
- Robust policy trackers may also provide more accurate and "forward-looking" representation of countries' trajectories towards the SDGs.
- They can also help capture the implementation gap between commitments and actions. This is particularly relevant because, as many studies have pointed out, there are limits to the voluntary and government-led VNR process as sound, independent assessments of countries' efforts to achieve all SDGs, including the Leave-No-One-Behind (LNOB) principle (ODI, 2018). This makes sound, science-based policy trackers relevant as tools for accountability and advocacy.
- They may also provide useful information for allocating international sustainable development financing based on countries' needs but also based on their efforts and commitments, which is ultimately what impact investors aim to achieve.

But policy tracking tools are hard to conceptualise and require huge capacities and expertise. They require extensive upfront conceptualisation to define what represents "ambitious policies" and what policy levers should be leveraged for impact. These may vary across countries and contexts. It also requires looking at a vast quantity of laws, regulations, policies, and action plans. The data required is often qualitative and less standardised than outcome-based statistics. Policy trackers require a mix of strong thematic and geographic expertise. Text mining, web scraping and other tools can be leveraged; this is discussed in this WP. But they do not replace expert judgement and sound conceptual frameworks.

This paper builds on earlier work conducted by the SDSN on good governance for the SDGs and policy tracking. Notably, we refer to the 2019 reflection paper prepared by the SDSN and the OECD on SDG governance (SDSN and OECD, 2019), the Sustainable Development Report (Sachs et al., 2022) and insights from the Food, Environment, Land and Development (FELD) Action Tracker. This WP aims to achieve three objectives:

(1) to provide an overview and comparative analysis of existing policy trackers;
(2) to describe the results of SDSN's work on tracking government efforts for the SDGs;
(3) to identify tools, instruments and major next steps needed to strengthen analyses of SDG policies, especially for tracking spillovers across countries and inequalities within countries. It also calls for deeper linkages between policy trackers and instruments used to allocate sovereign financing (including sustainability-themed bonds and credit ratings).

Published at mid-point of Agenda 2030 and prior to the United Nations' SDG Summit in September 2023, this paper aims to contribute to broader efforts for greater accountability and action and for using the SDGs as a roadmap to 2030 and beyond.

1. Overview and comparative analysis of existing policy trackers

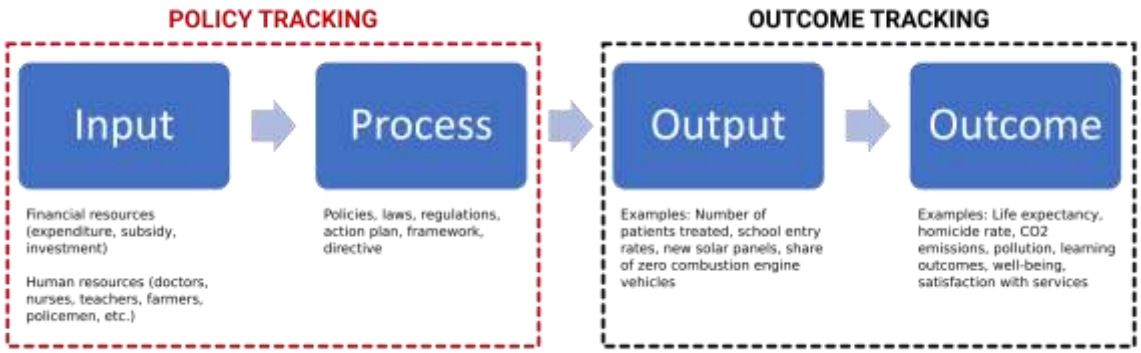
1.1 Policy trackers vs outcomes-based assessments

The SDGs were adopted in 2015 by all UN member states. With the Paris Climate Agreement, they provide a shared vision for achieving economic, social, and environmental prosperity oriented towards 2030 for the SDGs and 2050 for the Paris Climate Agreement. There was never an expectation that at mid-point on the way to 2030 countries would have achieved the SDGs. However, adjustments need to be made to the policy environment, regulations, laws, subsidies, and investment frameworks much earlier than 2030 to achieve the SDGs in time. This is the fundamental difference between focusing on outcomes (countries' performance) and inputs and process variables (countries' efforts and commitments).

> ***"We define policy trackers as efforts to track government inputs (financial, human resources) and processes (policies, laws, investments, regulations) and their alignment with major international agreements and objectives: in our case, the SDGs."***

We define policy trackers (PTs) as efforts to track government inputs (financial, human resources) and processes (policies, laws, investments, regulations) and their alignment with major international agreements and objectives: in our case, the SDGs. Figure 1.1 and Table 1.1 compare indicators used to track policies with those used to track outcomes. Although this paper focuses on countries, many of the findings can also apply to the corporate sector.

Figure 1.1: Policy Tracking and Outcome Tracking



Source: Authors

Table 1.1: Examples of indicators of inputs, processes, outputs, and outcomes

	Examples			
Topic	Input	Process	Output	Outcome
SDG13 (Climate Action)	Clean energy subsidies / Conditional fossil fuel subsidies	Carbon pricing policy, renewable energy targets & regulations	Electricity generated from renewables	CO_2 emissions per capita
SDG 4 (Quality Education)	Teachers per student, government spending on education per student	Years of guaranteed free education	Secondary school completion rate	Literacy and numeracy rate
SDG 3 (Good Health and Well-Being)	Public health expenditures, number of doctors per capita	Universal health coverage, prevention/screening policies	Number of patients treated	Life expectancy, Life satisfaction
SDG2 (Zero Hunger)	Subsidies for smallholder farms	Mandatory nutrition labels on food items	Consumption of healthy foods	Prevalence of undernourishment / obesity

Source: Authors

SDG indices and outcomes-based assessments prepared by the SDSN but also by the OECD, Eurostat and other organisations are crucial for assessing country-level progress on the SDGs, yet they also come with drawbacks and limitations. These limitations are mainly the consequences of the significant time lag between the adoption of a policy and the collection and publication of outcome data. These limitations make the case for complementing outcomes-based assessments with PTs to provide a more comprehensive picture of progress and expected progress towards achieving major societal transformations.

There are two major time lags linked to outcome tracking: first, the lag between the adoption of a policy and the policy's impact (impact lag). Second, the lag between the impact and the collection, processing, and dissemination of data (data lag).

The *impact lag* is the delay between the adoption of a policy and its observable impact. After a new policy or law is adopted, it can take several months or even years until its impacts are observable in the real world. This depends largely on the issue at hand. While the proportion of the population with access to the Internet or the share of fish caught by trawling may both change relatively quickly from one year to another, other indicators are stickier. Literacy rates, the Gini coefficient, and obesity rates, for example, may only show impacts several years after a related policy has gone into effect.

"There are two major time lags related to outcome tracking: first, the lag between the adoption of a policy and the policy's impact (impact lag). Second, the lag between the impact and the collection, processing, and dissemination of data (data lag)."

The *data lag* is the delay between a policy's impact on the real world and the publication of data that captures that impact. After a policy has started to have an impact on the real world, it can take months — and often years — until data is collected, processed, and published. For example, poverty data covering two-thirds of the population in Sub-Saharan Africa is based on surveys that were conducted before the SDGs

were adopted (Oldfield, 2020). And data from the United Nations Global SDG Indicators Database — the official repository for data on the SDGs — is generally between three and four years old on average; data for certain indicators may be even older (Sachs et al., 2021). SDSN's SDGs Today program provides a platform where real-time or near real-time data for the SDGs are Made available (SDSN, 2022b), but international, timely data is missing for most SDG indicators.

Decisionmakers, civil society and investors need to understand not only where countries stand today on the SDGs, but also where they will likely be ten or twenty years from now. For example, a policy for reaching net-zero greenhouse gas emissions by 2050 needs to be based on reliable projections about a country's emissions trajectory. But often, outcome data alone do not yield reliable projections about future trajectories (Lafortune et al., 2020). For example, improvements in outcome data in recent years may mask a deteriorating political environment that will cause negative impacts in the medium term. Conversely, a newly adopted, transformative policy may have a big impact in the years to come, but projections based exclusively on past outcome data would not account for it.

By capturing, assessing, and evaluating the adequacy of laws, policies, and regulations adopted by governments, policy trackers offer a more "forward-looking" assessment of where countries are headed. In doing so, they can complement outcome tracking and overcome the limitations discussed previously. Triangulating the results of PTs and outcome-based assessments can provide very useful insights. Two countries may have a similar SDG Index score but may have very different levels of policy commitments and actions. Impact investors and development partners may want to prioritise investments in those countries that are facing significant challenges (and therefore where large impact can be generated) *and* which have also adopted sound and coherent policies, ensuring they maximise the potential impact of their investments. In the SDG context, Integrated Assessment Models (IAMs) (or other types of models such as partial or general equilibrium models), as well as policy trackers, help create forward-looking scenarios and projections that complement static assessments of distances to targets.

Policy trackers face three specific challenges compared with outcomes-based assessments. First, PTs need to incorporate or at least be interpreted in light of country contexts. For example, a country with very low CO_2 emissions (e.g., less than 2 tons per capita per year) may not need as many policy instruments and tools as a high-emitting country. PTs may also need to consider institutional characteristics and responsibilities to a greater degree, for instance remits and responsibilities within federal, unitary and confederate systems. While it is straightforward to compile average life expectancy in the European Union, measuring and internationally comparing the EU's policy efforts and investments on health would make very little sense considering that health is largely the responsibility of member states.

Second, policy tracking is often very labour- and resource-intensive. It requires qualitative expert judgments to assess and evaluate policy documents. Policy documents do not follow uniform structures and come in different languages.

Third, there is often no overarching, internationally established framework for what the right policies should be. Indeed, experts may disagree on what the right strategy should be

for reaching a specific policy goal. All three of these factors make policy tracking a difficult undertaking. As a result, while there are many organisations and procedures in place to standardise outcome data and provide comparative assessments of outcomes (e.g., UN agencies, the OECD, and the IMF), assessments of government policies, actions, and efforts through policy trackers are still comparatively rare.

1.2 Conceptual work to define key SDG Transformations by SDSN and other organisations

The starting point for developing a sound policy tracker is usually to define a conceptual framework. The SDGs provide a vision for sustainable development but not an operational action plan. Since 2015, there has been significant progress in conceptualising a consolidated set of operational transformations or systemic changes that need to happen to achieve the 17 SDGs, both for governments and for the private sector. These efforts tend to build on the literature related to SDG linkages and trade-offs. The first step towards systematically, robustly tracking policies and investment frameworks is to conceptualise what sound policies and investments would look like.

To operationalise the 17 SDGs and 169 targets, the SDSN and partners promote six SDG Transformations that must be implemented at the same time and adapted to local contexts. They encompass:

- quality education (SDG 4);
- access to good quality and affordable health care (SDG 3);
- renewable energy and a circular economy (SDGs 7, 12, and 13);
- sustainable land and marine management (SDGs 2, 14, and 15);
- sustainable urban infrastructure (SDGs 6, 9, and 11); and
- universal access to digital services (SDG 9).

Scientific knowledge and networks are key for modelling structural changes over a time horizon of 10–30 years. This knowledge base and the networks inform policy discussions and consultations on the six SDG Transformations. SDSN frequently uses the Six Transformations framework, or slightly adjusted versions of it, to assess policy efforts and investment framework: in the European Union (Lafortune, Cortés Puch, et al., 2021), for instance, and in Benin, where it is used to assess progress in delivering on targets of the SDG Bond framework developed by the Ministry of Economy and Finance (SDSN, 2022a).

Figure 1.2: SDSN's Six SDG Transformations Framework

Source: Sachs et al. (2019)

Other groupings have been proposed, but overall, the major systemic changes needed to operationalise and achieve all the SDGs are similar across organisations. Except for some differences in how they address the food sector and biodiversity, there are many similarities between SDSN's Six SDG Transformations and the Six SDG Essential Entry Points identified by the UN IGS. There are also similarities between such frameworks – developed for governments – and those created to support private sector SDG implementation, including the "Six Work Programs" by the World Business Council on Sustainable Development (WBCSD) and the "Seven System Transformations" proposed by the World Benchmarking Alliance. The European Commission also mapped SDG initiatives across its six priorities and the SDGs.

Table 1.2: Comparison of existing frameworks developed since 2015 to operationalize the SDGs into a reduced set of systemic changes

6 Transformations (SDSN)	6 Essential Entry Points (IGS)	6 Work Programs (WBCSD)	7 System Transformations (WBA)	6 Priorities of the European Commission
Education, Gender, and Inequality	Human well-being and capabilities	People & Society	Social transformation	Economy that works for people
Health, Well-Being, and Demography	Food and nutrition	Food & Nature	Financial system transformation	European way of life
Energy Decarbonization and Sustainable Industry	Energy decarbonization and access	Climate & Energy	Decarbonization and energy transformation	European Green Deal
Sustainable Food, Land, Water, and Oceans	Global commons	Circular Economy	Nature and biodiversity transformation	European democracy
Sustainable Cities and Communities	Urban and peri-urban development	Cities & Mobility	Urban transformation	Stronger Europe in the world
Digital Revolution for Sustainable Development	Sustainable economies	Redefining Value	Digital system	Europe fit for the digital age
			Agriculture and food system	

Source: Authors

1.3 Typology of policy trackers

The main goal of policy trackers is to provide comparative information about governments' ambitions; their clear, transparent commitments (or targets); and policy actions including regulations and investments. These three elements matter. Clearly stating a country's ambition and targets is often the starting point for enabling action. It sends strong messages to the rest of the international community (and to markets). For instance, the adoption of the European Green Deal in 2020 made it very difficult for any country to travel to the Convention of the Parties on Climate Change (COP) without bold commitments to achieving net-zero carbon emissions by mid-century or slightly later (Net Zero Tracker, 2022). Stated ambitions are not sufficient, of course. So, PTs must also conceptualise what ambitious policies and implementation mechanisms look like and then track them.

As such, PTs can help assess ambition gaps and implementation gaps. For instance, a stated ambition to increase access to schools that is not accompanied by a clear target and timeline in policy documents for achieving universal access to basic education (say for all children aged 5 to 15) and intermediate milestones and commitments to invest more into schools and teachers might suggest an "ambition gap".

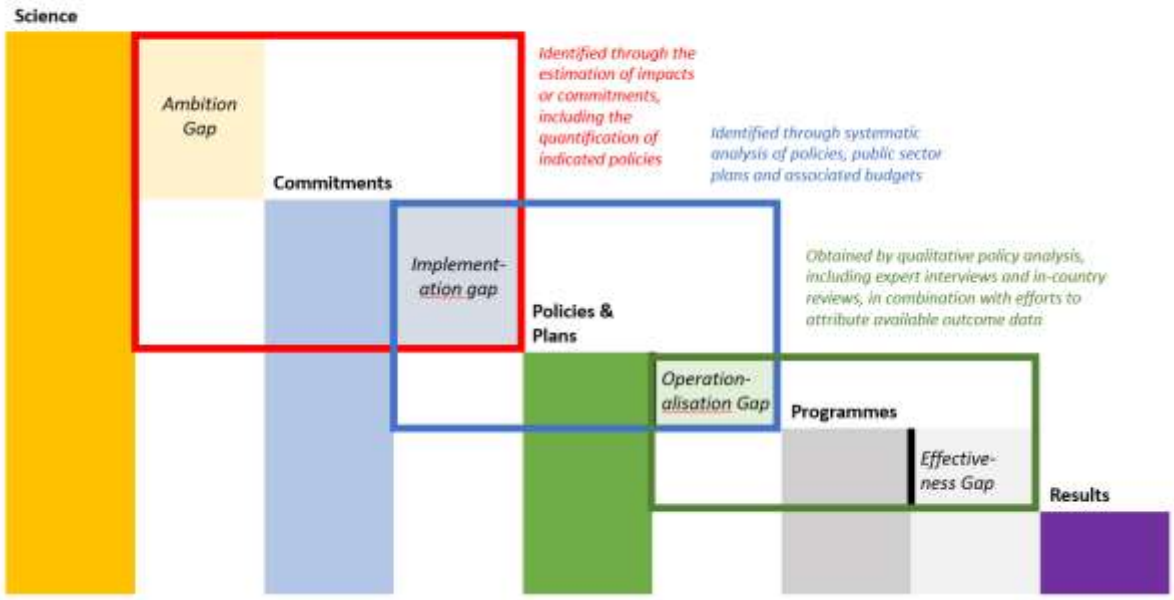
"Policy trackers can help assess ambition gaps and implementation gaps."

Alternatively, the adoption of bold commitments, targets and timelines on climate neutrality accompanied by an increase or stagnation of unconditional fossil fuel subsidies mays suggest an "implementation gap". The latter gap is what good policy trackers should aim to capture to trigger more ambitious action and generate a "race to the top" among countries being compared.

> ***"Good policy trackers should capture implementation gaps to trigger more ambitious action and generate a 'race to the top' among countries being compared."***

The "effectiveness" gap is very difficult to assess from an empirical and comparative standpoint, as it requires either very detailed contextual and on-the ground information (to estimate whether a regulation or policy is effectively implemented and has the expected impact). *Triangulating* PTs at y0 (year) and progress on outcome-based assessments at y+2 or y+3 may provide proxy measures for the effectiveness gap. At the same time, *mixing* policy measures at y0 and outcome indicators with years of reference at y-1 or y-x in the same measurement tool, may lead to confusion about what is actually being measured, i.e., policy efforts versus country performance.

Figure 1.3: The added value of robust policy trackers



Source: Haverkamp (2022).

"Policy trackers" (and related terms) can therefore cover very different types of assessments. Some are simply descriptive and do not make any normative judgements. Others are normative but may only focus on capturing ambitions and/or commitments and/or policies and actions. Few manage to capture the "implementation gap". Depending on the goals pursued, the tools and methods used also vary greatly. The next section compares a selection of PTs that are linked to broader issue of sustainable development.

1.4 Comparative analysis of selected policy trackers

In this section, we compare (i) the scope, coverage, and timeliness, (ii) approach and data collection methods and (iii) results obtained for 16 policy trackers. These were selected based on their relevance to the SDGs and their broad country coverage. We focus on comprehensive policy trackers: ones that combine or present several indicators, most of them corresponding to composite indices, to capture broad underlining phenomena (climate action, LNOB, etc.) rather than single or specific indicators. As their descriptions emphasise, they all aim to capture government "commitments", "targets", readiness", "capabilities", "actions", or sustainable governance rather than outcomes (well-being, life expectancy, carbon emissions, deforestation, etc.). We have excluded initiatives that aim to measure "state capacity" (such as the Worldwide Governance Indicators or the International Civil Service Effectiveness) since we focus on policy efforts rather than administrative capacities. Annex 2 summarizes the key findings in table format. Each policy tracker is also briefly described in the Annex.

Table 1.3: Overview of the 17 policy trackers retained for the comparative analysis

Tracker	Organization	Description
Climate Action Tracker	Climate Analytics and New Climate Institute	Track progress towards the globally agreed aim of holding warming well below 2°C, and pursuing efforts to limit warming to 1.5°C.
LNOB indices	Overseas Development Institute (ODI)	This index reviews the readiness of 159 countries to 'Leave-No-One-Behind', covering all the countries that are presenting Voluntary National Reviews (VNRs) at the 2018 HLPF as well as those that presented last year.
Global Slavery Index: Government Response Index	Walk Free Foundation	Assess the actions governments are taking to achieve SDG8.7 and the eradication of modern slavery
Commitment to Development Index	Centre for Global Development	The Commitment to Development Index ranks 40 of the world's richest countries on their dedication to policies that benefit people living in poorer nations.
Global Health Security Index	EIU, John Hopkins & NTI	The first comprehensive assessment and benchmarking of health security and related capabilities
Commitment to reducing inequality index	Oxfam	A global ranking of governments based on what they are doing to tackle the gap between rich and poor.
Global Diplomacy Index	Lowy Institute	The Index highlights gaps and concentrations in diplomatic networks and indicates strengths and weaknesses in geographic coverage and geopolitical reach.
Energy Policy tracker	IISD, IGES, OCI, ODI, SEI and Columbia University.	The Energy Policy tracker database is updated on a weekly basis, to provide the latest information about COVID-19 government policy responses from a climate and energy perspective. Our analysis provides a detailed overview of the public finance flows as determined by recovery packages across the G20. Filter by country, energy type, finance mechanisms, and other categories to see, at a glance, what types of measures countries are implementing to tackle the crisis and what is shaping our future energy system.
The Global State of Democracy Indices	IDEA (Institute for Democracy and Electoral Assistance)	The Global State of Democracy Indices (GSoD Indices) measure democratic trends at the country, regional and global levels across a broad range of different attributes of democracy in the period 1975–2020. They do not provide a single index of democracy.
Women, Business and the Law	World Bank	Women, Business and the Law measures legal differences between men's and women's access to economic opportunities in 190 economies.
Transformation Index	Bertelsmann Stiftung	The Transformation Index analyses transformation processes toward democracy and a market economy in international comparison and identifies successful strategies for peaceful change.
Sustainable Governance Indicators	Bertelsmann Stiftung	The SGI provide the most comprehensive survey of sustainable governance in OECD and EU countries.

Net Zero Tracker	Energy & Climate Intelligence Unit, Data-Driven EnviroLab, NewClimate Institute & Oxford Net Zero	The Net Zero Tracker aims to increase transparency and accountability of net zero targets pledged by nations, states and regions, cities, and companies. We collect data on targets set and on many factors that indicate the integrity of those targets — essentially, how serious the entity setting the target is about meaningfully cutting its net emissions to zero.
Global Cybersecurity Index	ITU	The Global Cybersecurity Index aims to better understand countries' commitments to cybersecurity, identify gaps, encourage the incorporation of good practices, and provide useful insights for countries to improve their cybersecurity postures.
Green Economy Tracker	The Green Economy Coalition	21 trackable policies across 6 themes, that they believe when taken together would drive systemic change in our national economies
Food, Environment, Land and Development (FELD) Action Tracker	UN SDSN, Food and Land Use Coalition (FOLU)	Track and assess government action on national and global food and land use transformation against national commitments and targets in the Paris Agreement and SDGs.
Nature-based Solutions (NbS) Tracker	Nature4Climate, Metabolic/Arboretica	Maps national policies and government budget documents supporting the implementation of Nature-based Solutions (NbS), using an automated search process

Source: Authors

1.4.1 Scope, coverage, and timeliness

Overall, we identified the greatest number of SDG-related PTs on climate action and energy (SDG7, SDG12, SDG13), rule of law and democracy (SDG16) and health and equal access to services and inequalities (SDG1, SDG3, SDG5, SDG8, SDG10). By contrast, it is more difficult to identify initiatives that track ambitious food and land policies (SDG2, SDG14 and SDG15), policy coherence and spillovers (SDG17), and access to/quality of digital infrastructure (SDG9). This could be driven by the higher degree of complexity and absence of single policy documents in the area of food and land (FOLU & FELD, 2021) compared to climate policies, where NDCs provide a common "denominator" for analysing government commitments and actions. For some sectors, it might also be more difficult to conceptualise what sound policies mean across all countries. For instance, for digital technologies, poor countries may face challenges of access and quality whereas rich countries may require more policies and investments on cybersecurity. Increasingly, recent work by the ITU, UNCDF and several alliances including the Coalition for Digital Environmental Sustainability and the Digital Public Goods Alliance provides sound metrics for gauging commitments and efforts for universal access to digital technologies. There may also be other reasons for uneven thematic coverage.

Policy trackers also vary in their country coverage, timeliness and frequency of updates. Our sample includes PTs that cover around 40 countries (Climate Action Tracker, Energy Policy tracker, Commitment to Development Index, Sustainable Governance Indicators, Green Economy Tracker) to those that cover 180+ countries (Global Slavery Index: Government Response Index, Global Health Security Index, Women, Business and the Law and Global Cybersecurity Index). Some are updated on a rolling basis and relatively regularly (Climate Action Tracker); others are less frequently updated or were only done once (Global Diplomacy Index, Global Slavery Index: Government Response Index). Differences in country coverage may be explained by the significant resources and capacities required to develop and maintain PTs; these requirements may also underpin organisations' capacity to regularly update assessments, especially when they rely on primary data collection (whether survey-

based or expert-based). We discuss in Part 3 how artificial intelligence (AI) and machine-learning may help automate the review of policy documents, but also flag their limitations.

PTs may not always need cover all countries. Tracking policies and efforts on climate action is particularly relevant for high emitters (in absolute and per capita terms); it is less so in Small Island Developing States (SIDS), for example. Historically, these states are not responsible for global warming and, in most cases, emit less than 2 tonnes of CO2 per capita per year. In SIDS it might be more relevant to track government efforts on strengthening resilience against shocks – economic, climate-related, and extreme weather – using regulations and investments. In general, developers of PTs continue to be challenged to devise a shared framework and indicator set for a given policy area that can apply across all country contexts. Hence the need to rely on thematic and geographic expertise, consult widely and interpret results considering other output and outcome databases.

1.4.2 Approach and data collection method

There is an important distinction between policy trackers than are inherently descriptive and those that establish normative judgements by design. Typically, tracking the size of countries' diplomatic networks (number of embassies, permanent missions, consulates, and other representations), which is what the Lowy Global Diplomacy Index does, provides useful descriptive information but says very little about the effectiveness and quality of foreign service or development cooperation. China and the United States rank respectively #1 and #2 on this Index, which reflects the geopolitical importance of these countries due to their size rather than a value judgement on how effective their diplomatic services are in practice. The Energy Policy Tracker provides multiple metrics to gauge government energy investments and subsidies, but they do not integrate these data into a normative framework to evaluate levels of ambition. The same is true for the Net Zero Tracker: it summarises states' adopted or discussed commitments to net zero CO2 emissions but does not provide a ranking or scoring of climate ambitions and actions. Descriptive databases of stated commitments and financial flows are nonetheless very helpful since they can feed into normative frameworks and PTs.

"There is an important distinction between policy trackers that are inherently descriptive and those that establish normative judgements by design."

Most PTs covered in this analysis aim to provide normative judgements about government commitments and actions. The developers' vision is typically presented in a detailed normative framework which summarizes the work conducted and expertise called upon to define what represents sound and ambitious policies and actions. Building a normative PT is more complex and challenging than developing a descriptive database of policy commitments and financial flows. An evaluation framework first needs to be developed. This means identifying ways in which policies are assessed (e.g., ambitiousness, timeliness, budget, etc.) as well as a rubric of criteria or thresholds used for rating or scoring (e.g., what criteria determine whether a policy is classified as "very ambitious", "moderately ambitious", etc.).

Then, there are different ways of aggregating and present the results. **Scores and country rankings** attract attention, are easily communicable and help foster a "race to the top". However, they can be quite sensitive to methodological choices (e.g., weights, arithmetic or geometric averages, etc.). Transparency and sensitivity tests (such as Monte Carlo Simulations) are useful additional information which helps users interpret the robustness of scores and rankings. **Ratings** (and/or **clusters or groups of countries**) move attention away from the "best in class" and might better convey complexity, but they tend to attract far less attention (including from media). Finally, providing **individual indicators** presents the data in a more "neutral" way, but provides fewer definitive answers or opportunities for integrated overviews of best practices (especially when trying to measure multidimensional phenomena such as climate efforts and efforts to reduce inequalities).

The development of an evaluation framework is especially complex in the case of PTs since there can be significant disagreement between experts about what the right and best policies are (Christopher & Zeckhauser, 2011). Our purpose in this paper is not to evaluate the soundness of conceptual frameworks, but to provide an overview. Below are examples of how developers have conceptualised sound policies in their respective areas:

- The Commitment to Development Index ranks 40 of the world's most powerful countries on policies that affect more than five billion people living in poorer nations. It covers eight distinct policy areas considered to be particularly important: development finance, investment, migration, trade, environment, health, security, and technology.

- The Climate Action Tracker and Global Slavery Index: Government Response spent years developing their conceptual frameworks with topical and geographic experts, trying to reflect what represents ambitious and sound commitments and policies in their topic areas (respectively climate action and modern slavery) and defining how to best collect the data needed to gauge government efforts and actions. These are described and discussed at greater length in the next sub-section.

- Similarly, ODI's LNOB Indices consider three major areas to be particularly important for gauging government readiness: (1) the ability to collect LNOB data, including via surveys; (2) the existence of policies in three major areas considered particularly important in previous ODI research to making progress on LNOB (women's access to land, anti-discrimination labour-laws, and universal access to health3); and (3) spending on health, education, and social protection. The indices focus more on policy tools and instruments and less on countries' ambition and commitments.

- The Commitment to Reducing Inequality Index (CRI) has three pillars, each of which relates to one policy area found to be critical for reducing inequality: public services (previously known as spending), tax progressivity, and labour rights and wages. Like ODI's LNOB Readiness Indices, it focuses more on policy tools and instruments and less on countries' ambition and commitments (for instance, tracking whether there are explicit national targets for achieving certain levels of Gini Coefficients or Palma Ratios).

Another distinction must be established between data collection methods and how output and outcome data are treated. In our view, the most advanced PTs – including for instance the Climate Action Tracker or Global Slavery Index: Government Response – build on a clear conceptual framework, expert surveys, templates to be filled out and a large network of experts, scientists and partners that help collect the data and refine the methodology. They also have processes in place to centralise and harmonise results via a rigorous data cleaning process that ensures comparability. The Global Slavery Index: Government Response and ODI's LNOB Indices both incorporate outcome statistics but as separate and stand-alone pillars.

"In our view, the most advanced policy trackers – including the Climate Action Tracker and Global Slavery Index: Government Response – build on a clear conceptual framework, expert surveys, templates to be filled out and a large network of experts, scientists and partners that help collect the data and refine the methodology."

By contrast, other PT assessments mix input and process data with outputs and outcome statistics, which can lead to confusion about what is being measured (policy efforts or performance status) and skew the results. The Sustainable Governance Indicators aims to "provide the most comprehensive survey of sustainable governance" but largely captures the outcomes of government policies (unemployment rates, life expectancy, poverty rates, education outcomes) rather than the public management and practices that generate these outcomes. The Green Economy Tracker, by contrast, really focuses on policy instruments (e.g., carbon pricing, green action plans, pro-poor policies), though the relevance of policy instruments considered can be debated and cannot be truly comprehensive. The Commitment to Development Index (CDI) includes measures such as Greenhouse Gas Emissions (GHG) and weapons exported alongside qualitative measures that track whether countries ratified major environmental and security conventions. The CRI also integrates impact variables such as unemployment rates and secondary education completion. As discussed elsewhere, the inclusion in the Environmental Performance Index (EPI) of policy measures (conventions, treaties signed etc.), alongside outcome indicators for negative environmental impacts and emissions tends to improve the performance of rich countries in the aggregated score and rankings (Lafortune et al., 2021).

Few PTs are really designed to track the alignment of commitments and policies with pre-defined, time-bound objectives like those included in the SDGs and Paris Climate Agreement. One notable exception is the Climate Action Tracker, which aims to capture whether strategies and policies are sufficient to achieve the Paris Climate Agreement goals for limiting "global warming to well below 2°C and pursuing efforts to limit it to 1.5°C". The ODI's LNOB Indices and Global Slavery Index: Government Response make explicit connections with the SDGs and Agenda 2030, but compared with the Climate Action Tracker, the link between their assessments of government efforts and the achievements of specific targets is less scientific.

In most cases PTs allow users to get a relative estimate of which countries are top performers, but not whether these countries' policies and investments put them on track to achieve specific goals and targets in a given timeframe. In many instances, the latter can be obtained by triangulating PTs and outcome statistics and by leveraging insights from IAMs

such as The Food, Agriculture, Biodiversity, Land-Use, and Energy (FABLE) Consortium and model or The World in 2050 (IIASA, 2017). Outcome data and PTs can provide useful inputs for sophisticated modelling exercises that aim to econometrically estimate the likelihood and details of scenarios needed to achieve global goals.

1.4.3 Detailed approach and insights provided by four policy trackers on climate, the green economy, modern slavery, and health security

The purpose of this section is not to provide a detailed overview of key findings reported in each PT. Instead, we illustrate how PTs can help map the gap between ambitions, commitments, and actions ("implementation gap"), but also how they can end up being poor predictors of observed outcomes partly due to exogeneous factors that are behind the scope of empirical policy tracking exercises.

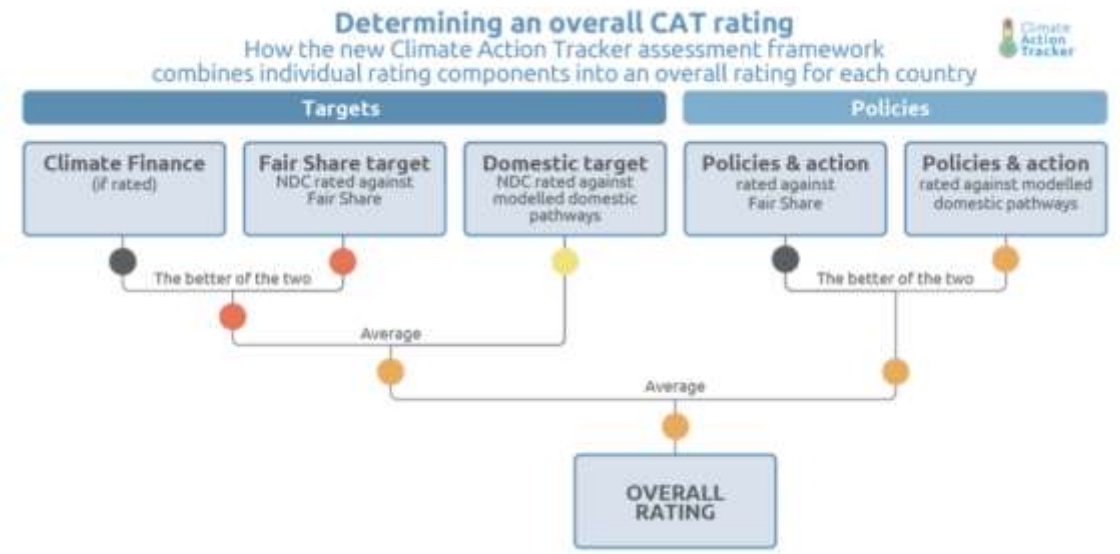
Climate Action Tracker

The Climate Action Tracker (CAT) was born in 2009 and is sustained by the collaboration of two non-profit organisations, Climate Analytics and the NewClimate Institute. Both organizations are based in Germany and focus on cutting-edge science and policy analysis on climate change.

The CAT tracks government climate action and measures it against the objectives of the Paris Climate Agreement, particularly the aim of holding warming well below 2°C and pursuing efforts to limit warming to 1.5°C. It includes 39 countries across 6 continents, plus the European Union, covering around 85% of global emissions and 70% of global population (Climate Action Tracker, 2022c).

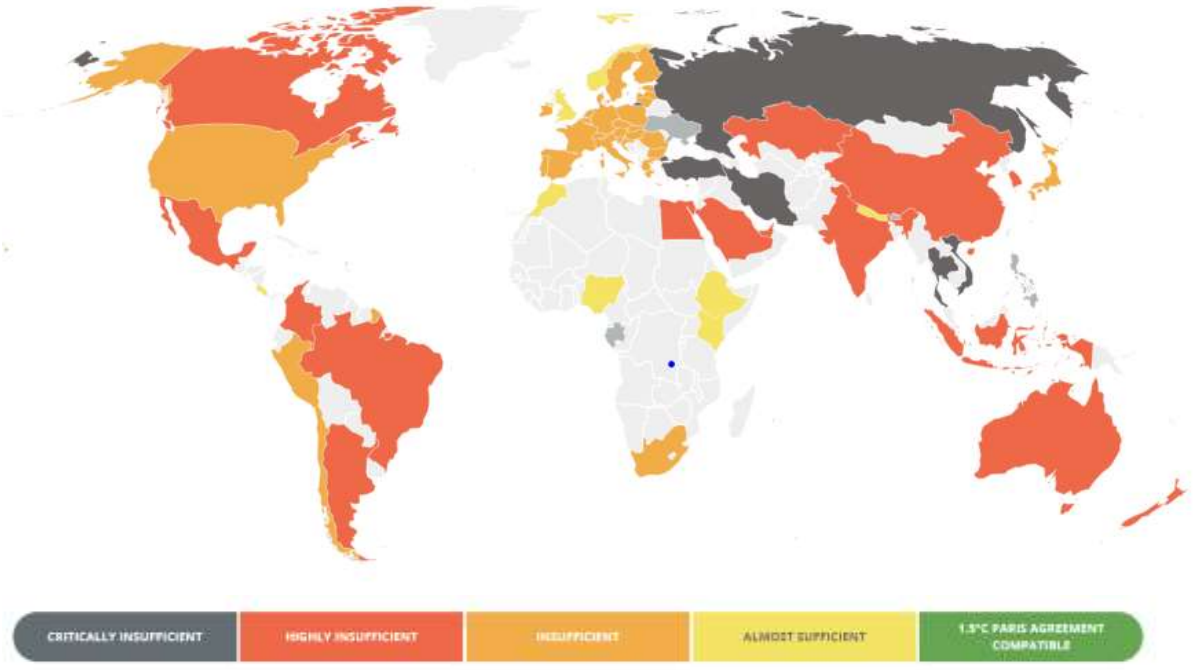
For each country the CAT provides a normative assessment of the alignment of the country's climate policies with the international targets laid out in the Paris Climate Agreement. It incorporates climate policies, targets, and climate finance (Climate Action Tracker, 2022b). Countries are scored from being 1.5°C Paris Agreement compatible (the best category) to being headed towards global warming above 4°C (the worst category). Their latest assessment reveals that none of the countries covered have set up a policy infrastructure compatible with the 1.5°C objective, and only few (Ethiopia, Nepal, Nigeria, Norway, and the United Kingdom) have strategies that are "almost sufficient". All the other countries covered are rated as "insufficient" or worst.

Figure 1.4: The Climate Action Tracker framework



Source: Climate Action Tracker (2022b)

Figure 1.5: Key findings of the Climate Action Tracker (July 2022)



Source: Climate Action Tracker (2022)

The CAT stands out from other PTs because of its thoroughness, comprehensiveness, and clarity. With over a decade of experience, the Climate Action Tracker has developed a thorough framework for tracking and evaluating countries' actions and efforts for climate action. Results for each country are aggregated into a single rating that expresses the country's trajectory with on climate change and is easy to understand even for users without thematic expertise. The various scores and assessments that underpin the overall

rating are also made available, providing transparency and replicability of the results, and allowing policy experts and policy makers to dive deeper.

The data for the Climate Action Tracker is collected through desk research. A detailed methodology is published on the tracker's website and the expert judgments that underpin each country's assessment are clearly documented and justified. Reuse of data from the CAT appears to be permitted under the condition that Climate Analytics and NewClimate Institute are credited, that copyright notice is provided, and that data is not used for commercial purposes.

Green Economy Tracker

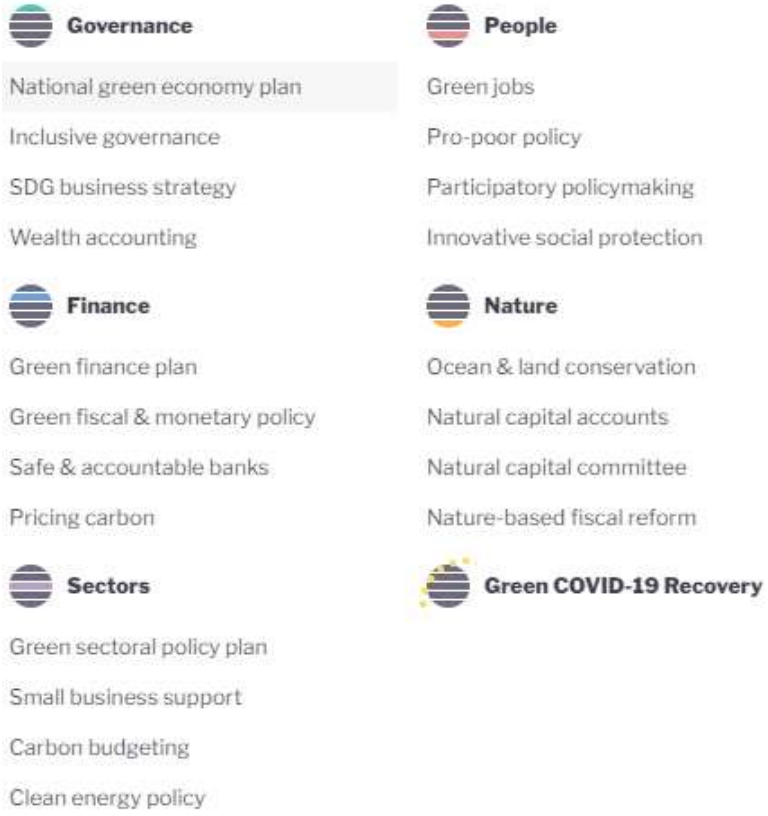
The Green Economy Tracker tracks the transformation of countries' economic systems towards protecting nature, promoting green business, and contributing to people's wellbeing.

Launched in January 2020, this PT is comparatively new. But it is part of the Green Economy Coalition (founded in 2009) and can therefore build on over a decade of experience related to the green economy. This coalition consists of over 50 members, including the WWF, UNEP, ILO, and many other major organisations in the field.

At its launch, the Green Economy Tracker covered 20 countries and as of 2021 has expanded to 41 countries. This mostly includes countries in North America, Europe, and Latin America but also at least a few countries in every other world region. The team behind the tracker is intentionally covering countries with a diverse range of income levels, location, and culture and is planning to track additional countries in the future.

The Green Economy Tracker covers 21 policies on a scale of 1 (minimal ambition) to 5 (high ambition). The policies include topics such as the existence of an action plan for promoting green jobs, a concrete roadmap for clean energy, and a strategy for land and ocean conservation. Every policy comes with a rubric that details the scoring criteria.

Figure 1.6: Policy Dimensions covered in the Green Economy Tracker



Source: Green Economy Coalition (2022).

The data is compiled and evaluated by the Green Economy Coalition secretariat and draws on knowledge from its member network. The Green Economy Tracker also uses a crowdsourcing approaching for data collection: anyone can submit additional sources, data, and insights about policies and countries. Notably, however, the crowdsourced data does not directly inform the final scores and assessments. Instead, it is vetted and incorporated into the secretariat's desk research.

As a new initiative, there is less information available about the background, methodology, and framework for this PT than for those covered above. For each assessment, the website lists the source documents and websites upon which it is based. This is a very good practice and allows for independent verification of their judgment.

The Green Economy Tracker features a very user-friendly website for interactively exploring the results. Data can be accessed either by policy (showing the performance of all countries) or by country (showing the performance on all policies). Each assessment is also accompanied by a short narrative that provides valuable context and helps bring the implications of the data to light.

Global Slavery Index: Government Response Index

The Global Slavery Index was developed by Walk Free, an international human rights group focused on the eradication of modern slavery in all its forms. Their work directly contributes to strengthening accountability and action on SDG 8.7: "take immediate and effective measures to eradicate forced labour, end modern slavery and human trafficking and secure the prohibition and elimination of the worst forms of child labour, including recruitment and use of child soldiers, and by 2025 end child labour in all its forms."

The GSI tracks the prevalence of modern slavery (outcomes), countries' vulnerability to modern slavery (mix of outcomes and policies), as well as government responses and steps towards ending modern slavery (policies). Here, we focus exclusively on the Government Response Index of the Global Slavery Index, as it is the pillar explicitly linked to policy efforts.

The Government Response Index covers 104 policy indicators across 181 governments. The indicators are structured around five important milestones that governments must pursue: support to survivors, the justice system, government accountability, risk factors, and supply chains (Global Slavery Index, 2018). Governments are then scored on a scale of AAA (best category) to D (worst category).

Figure 1.7: Milestones of the Government Response Index

Source: Global Slavery Index (2018).

To compile the data, desk research is conducted by a team of over 30 researchers and research assistants. The team is based in several countries and follows a strict protocol of the types of sources to consider and the evaluation criteria. Results are later verified by organisations based in each country. The Government Response Index was created in 2014 and was updated in 2016 and 2018. It has not been updated since.

The methodology and framework that underpin the Government Response Index are transparent, detailed, and clearly documented. The methodology also discusses the limitations and caveats of their research, which could help make improvements to their method in the future. Results are presented as a report and interactive maps are available online. To download the data, users must first make a request and provide an email address. The data license is comparatively permissive and allows data reuse even for commercial purposes, so long as credit is provided to the original authors.

Their latest assessment includes the following key findings, which provide useful grounds for gauging where countries stand on their commitments and efforts to address SDG 8.7. It also helps identify countries and specific policy tools and instruments that should be further leveraged:

> *"While much more needs to be done to prevent and respond to modern slavery, the Government Response Index suggests that national legal, policy, and programmatic responses to modern slavery are improving, with an* ***upward trend overall in ratings for government responses****. Globally, governments are taking more action to strengthen legislation and establish coordination and accountability mechanisms. Protection measures are being strengthened, with improvements in access to justice for adults and children in some countries. Nonetheless, in every country, there are enormous gaps between the estimated size of modern slavery and the small number of victims that are identified. This suggests* ***efforts that exist on paper are not being implemented effectively****. Furthermore, in many countries, critical gaps in services remain, with 50 percent of countries excluding either migrants, men, or children from accessing services. Not only are certain groups of victims not being identified, even when they are detected they are not able to access support and other services. Moreover, high-GDP countries such as Qatar, Singapore, Kuwait, Brunei, and Hong Kong are doing very little to respond despite their wealth and resources, while low-GDP countries such as Georgia, Moldova, Senegal, Sierra Leone and Mozambique are responding strongly. Government engagement with business on modern slavery has increased dramatically since the 2016 Global Slavery Index. In 2018, 36 countries are taking steps to address forced labour in business or public supply chains, compared to only four countries in 2016. However, these steps are often to establish the bare minimum of reporting requirements; individual governments can do much more than they are doing to proactively engage with business to prevent forced labour in supply chains and in* ***public procurement****"* (Global Slavery Index, 2018).

Global Health Security Index

The GHS Index measures the capacities of 195 countries to prepare for epidemics and pandemics. It is developed in partnership by the Nuclear Threat Initiative (NTI) and the Johns Hopkins Centre for Health Security at the Bloomberg School of Public Health, working with Economist Impact. It was first launched in October 2019 and was updated in 2021.

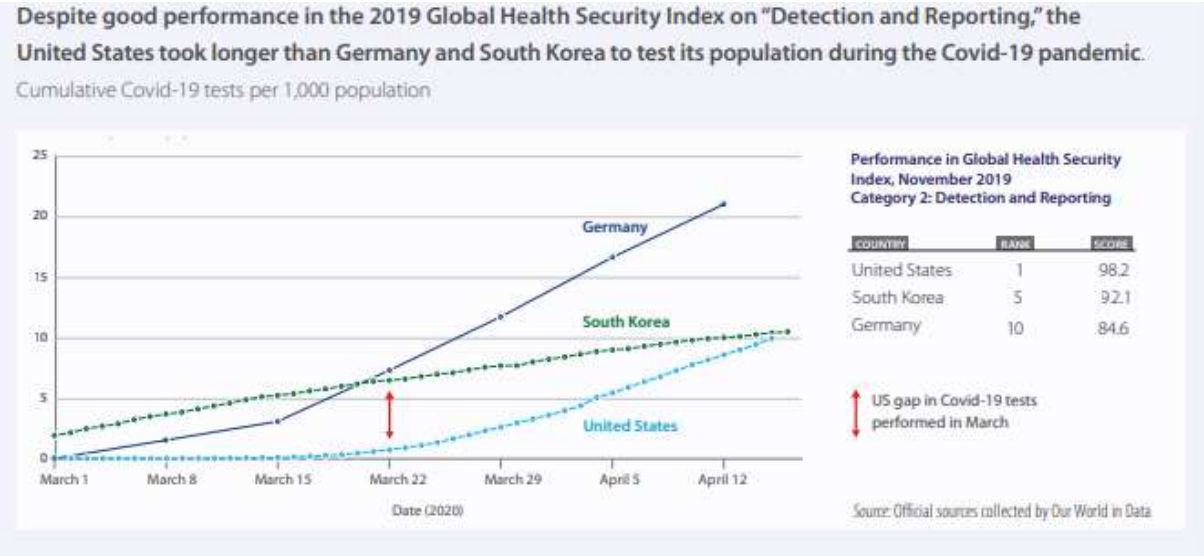
The 2021 GHS Index assesses countries across six categories, 37 indicators, and 171 questions using publicly available information. A team of more than 80 experienced field-based researchers from Economist Impact collected publicly available data on six aspects of

each country's preparedness: prevention, detection and reporting, rapid response, health systems, compliance with international norms, and risk environment.

Despite the strong conceptual framework and expert network, the GHS Index turned out to be a poor predictor of early response to the COVID-19 pandemic. Before the COVID-19 outbreak, the United States and many Western European countries were rated highest for health preparedness in the 2019 GHS. For example, the United States and the United Kingdom topped the Global Health Security Index released in November 2019 shortly before the first outbreak of COVID-19 (NTI et al., 2019). President Trump cited this index in February 2020, early in the pandemic, to argue that the United States was rated "Number 1" in terms of preparedness (Hub staff report, 2020) . But it quickly became obvious that the level of preparation was not particularly great in the United States nor in many other OECD countries.

There does not appear to be anything methodologically wrong with the researchers' assessment framework for preparedness to health threats. Yet the Index seems to have overestimated the capacity of some countries – including the United States, the United Kingdom, and France – to implement widespread testing of suspected cases and to isolate them. For example, the United States scored better (98.2) than Germany (84.6) and South Korea (92.1) on the dimension of "detection and reporting capacity," yet the United States took much more time than Germany and South Korea to test a significant proportion of its population (see figure 1.8, below).

Figure 1.8: Performance in Global Health Security Index, November 2019



Source: Sachs et al. (2020). First published in Lafortune (2020a).

Another interpretation of the gap between predicted and actual responses to COVID-19 is that some countries should have been able to respond well to the COVID-19 health crisis but failed to do so because of a lack of information, poor political leadership, and other factors. These might be omitted variables in the Global Health Security assessment framework or variables that go beyond the scope of the GHS exercise (e.g., political leadership). As the world recovers from the COVID-19 crisis, it will be important to learn lessons from countries

that were the most effective in dealing with the pandemic outbreak, but also to strengthen existing indicators and monitoring systems to track countries' preparedness and resilience capacities.

This is a good example of how difficult it is to empirically capture the "effectiveness" gap inside a single PT while incorporating all the exogeneous factors that might play a role in the successfully implementing sound ambition, commitments, and policies. This is also why it is crucial to analyse the effectiveness gap by triangulating between policy trackers (at y0) and output/outcome statistics (at y0+).

2 SDSN's pilot measure of government efforts and commitments for the SDGs

Building on the previous section, we now present SDSN's survey and the approach we used to develop the first pilot assessment of "Governments' Commitments and Efforts for the SDGs". The pilot ratings and scores were presented for the first time in SDSN's Sustainable Development Report 2022 (see Chapter 3). This approach builds on the Six Transformations Framework and internal policy tools such as the annual "SDSN Government effort survey for the SDGs". It also builds on the knowledge, insights, and inputs of SDSN's global network of scientists and researchers specialising in sustainable development. It tracks general support for the SDGs (speeches, SDG references in budget and recovery plans, monitoring systems) but also policy efforts and tools (regulations, subsidies, ambitious strategies) on three out of six SDG transformations. It also relies on third-party sources, including notably the Climate Action Tracker. As such it aims to capture not only general SDG commitments "on paper" but also sectoral implementation "in practice" using the Six Transformations Framework.

Most of the results are presented for G20 countries, but averages are also provided for other world regions. This section builds on Part 3 (Policy Efforts and Commitments for the SDGs) of the Sustainable Development Report 2022, which, for the first time, presented pilot scores of "Governments' Commitments and Efforts for the SDGs". It describes in detail the data collected and used to generate pilot scores of government efforts and commitments for the SDGs. The annex provides further insights into the methodology, calculations, and aggregation of results. The final section describes continuing challenges and next steps to building a more comprehensive measure of government efforts and commitments to the SDGs.

2.1 Political leadership and policy environment: SDSN's Government Effort Survey for the SDGs

Every year, the SDSN mobilises its global network of experts to track public statements by governments and the strategic use of public practices in support of the SDGs. Since 2018, this information has been collected through the SDSN survey on national coordination and implementation mechanisms at the central/federal level of government. The 2022 survey covers 61 countries (13 more than the 48 countries covered in 2021), including all the G20 countries and most OECD countries, as well as many countries with a population greater than 100 million inhabitants. The results of this survey are presented in Annex 2. The data are collected and analysed in close partnership with SDSN's global network and results are shared prior to publication to UN Permanent Missions for comment.

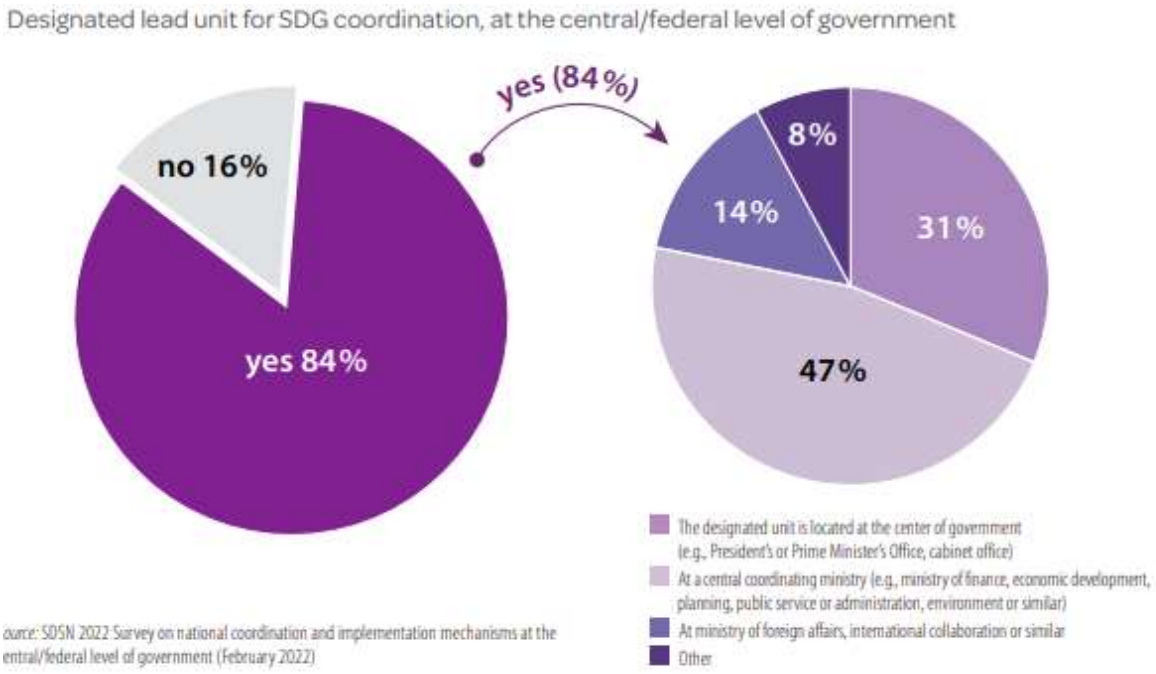
"The 2022 survey covers 61 countries (13 more than the 48 countries covered in 2021), including all the G20 countries and most OECD countries, as well as many countries with a population greater than 100 million inhabitants."

Six years after the adoption of Agenda 2030 and the SDGs, a majority of governments have developed strategies and action plans for implementing the SDGs. For many governments, this takes the form of a national sustainability

strategy which is explicitly linked to the goals and targets of the Agenda 2030. Other governments have opted for a mainstreaming approach to implementing the SDGs: the SDGs are implemented by each government ministry within the scope of their mandate (instead of through one overarching action plan). SDSN's survey is not able to evaluate whether there is actual political and administrative backing for implementing these strategies. The SDSN has published a detailed analysis of SDG integration in *Recovery and Resilience Plans in the European Union* (Lafortune, Cortés Puch, et al., 2021).

On SDG coordination units and mechanisms, the SDSN finds that most countries have appointed a lead unit or agency that is responsible for coordinating implementation of the SDGs (Figure 3.1). Yet less than a third of surveyed countries have located this unit in the centre of government (e.g., the Presidency or Prime Minister's or Cabinet Office).

Figure 2.1: Is there a designated lead unit for SDG coordination, at the central/ federal level of government?



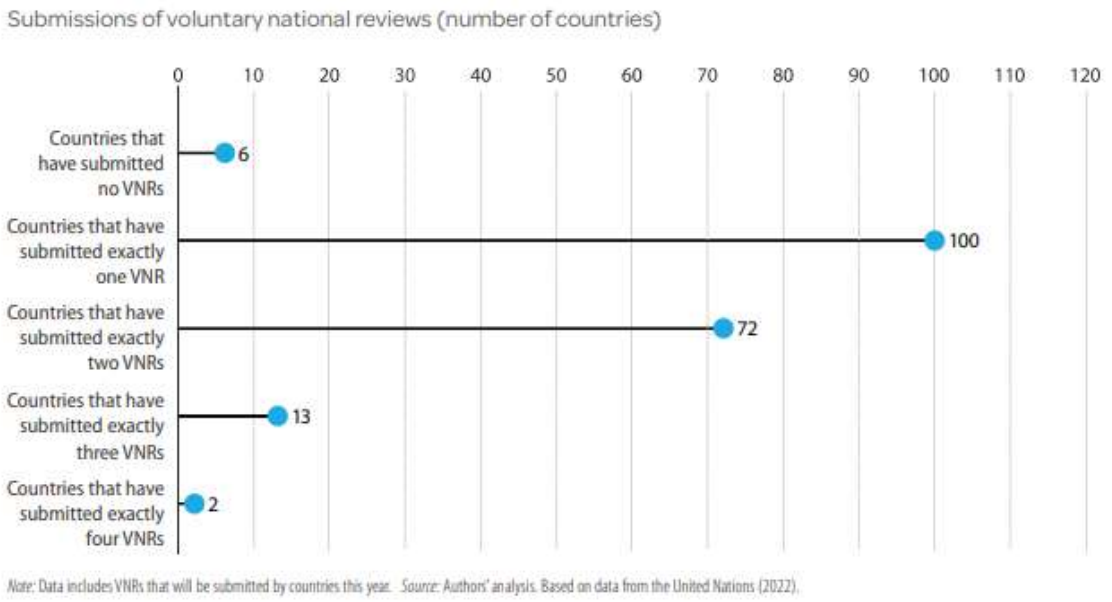
Source: Sachs, J. D., Lafortune, G., Kroll, C., Fuller, G., & Woelm, F. (2022).

Many countries have also developed strategies for SDG monitoring. 46 out of the 61 countries covered in the survey have adapted the SDG framework to their context and identified a set of nationally relevant indicators. On average, national SDG indicator sets comprise around 135 indicators. Several countries have also developed online platforms to report on progress on the SDGs. These efforts to strengthen monitoring mechanisms for sustainable development are critical to inform SDG action. The challenges related to the COVID-19 pandemic sparked new innovations in monitoring and data collection, which are discussed in Part 4.

Official speeches and government efforts to prepare voluntary national reviews – the official government-led process to report on SDG progress to the UN – are also relevant proxy measures for gauging commitment to the SDGs. Over the past 12 months, just over half of

the surveyed countries reinforced their commitment to the SDGs in an official speech or statement made by the head of state (e.g., president or prime minister). Since 2016, 187 UN member states have prepared a VNR to report on SDG progress, gaps, and policy efforts. This year, 45 countries have committed to submitting a VNR, which is comparable to the pre-pandemic period. While some countries are preparing their fourth VNR this year, there are six countries that have never once submitted a VNR — the United States, Haiti, Iran, Myanmar, South Sudan, and Yemen (UN, 2022).

Figure 2.2: Submissions of voluntary national reviews (number of countries)



Source: Sachs, J. D., Lafortune, G., Kroll, C., Fuller, G., & Woelm, F. (2022).

As in previous years, there is some discrepancy between expressed political support for the SDGs and integration of the goals into strategic public policy processes, most notably national budgets. About a third of the countries surveyed (21 out of 61) mention the SDGs or use related terms in their latest official budget document – no improvement over 2021. And only half of these include the SDGs in a dedicated section of their national budgets or in a dedicated budget line. The other half refer to the SDGs only in the general narrative, providing less SDG-specific budget allocations. Several countries surveyed do specifically refer to the SDGs in their national budget to support both domestic SDG implementation (including national health, education, social protection, or economic development reforms) and SDG implementation abroad (for example, aid allocation or foreign policy).

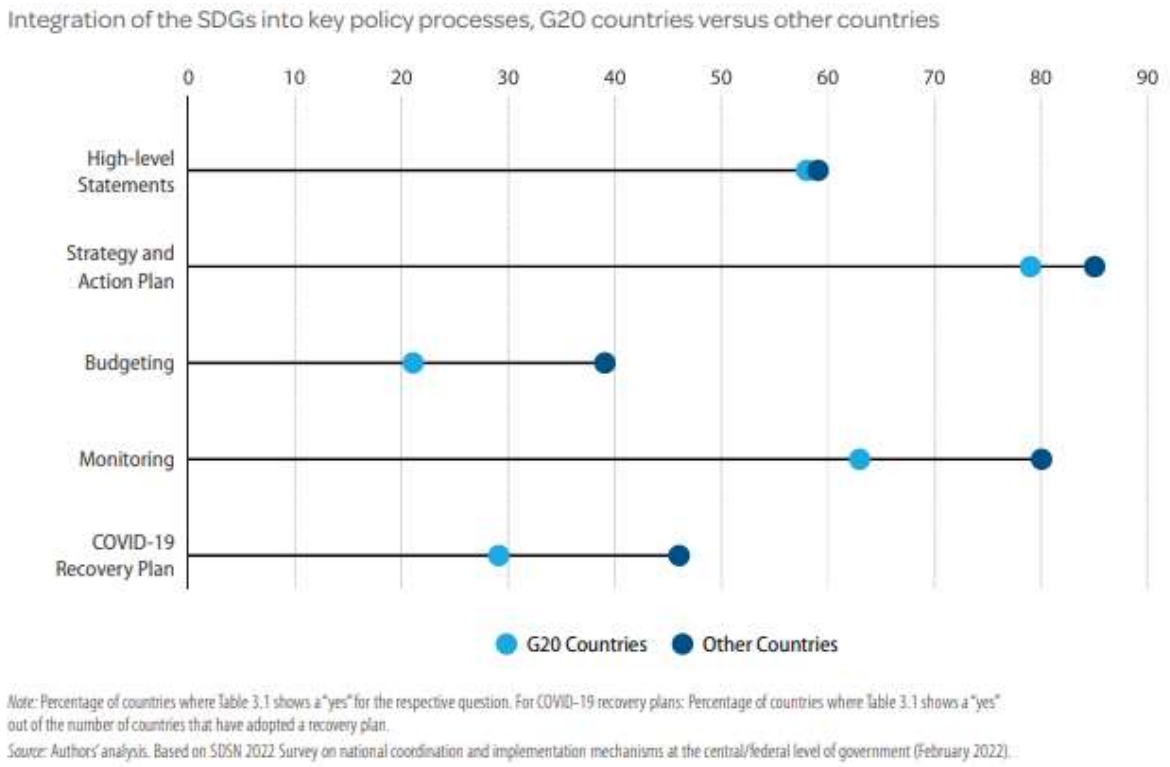
"There is some discrepancy between expressed political support for the SDGs and integration of the goals into strategic public policy processes, most notably national budgets."

This discrepancy is evident also in countries' COVID-19 recovery plans. Among the 44 countries with national recovery plans in place, the SDSN finds that most (26) do not refer to the SDGs at all. Only nine countries have a COVID-19 recovery plan where the SDGs form a central pillar to guiding a sustainable, inclusive, and resilient recovery. This aligns with some

of the findings obtained by developers of green recovery policy trackers (Green Economy Coalition, 2022; Mölter et al., 2021; O'Callaghan et al., 2021). As countries work to recover from the pandemic, it is important to maintain – and increase – the focus on achieving the long-term goals agreed upon by the international community in 2015, including the SDGs, the 2030 Agenda, and the Paris Climate Agreement.

As shown in Figure 3.3, G20 countries are on average less ambitious than other countries on integrating the SDGs into key policy processes. G20 countries lag in particular on linking budgets to the SDGs and developing national SDG indicator sets. Since G20 countries represent two-thirds of the world population and 85 percent of global GDP, the integration of the SDGs into their governance systems is particularly important.

Figure 2.3: Integration of the SDGs into key policy processes, G20 versus other countries



Source: Sachs, J. D., Lafortune, G., Kroll, C., Fuller, G., & Woelm, F. (2022).

Besides the executive branch of government, parliamentary committees and groups have also emerged over the years to promote SDG action. For instance, the SDG Alliance is an informal group of Members of the European Parliament from different committees and political groups across the European Parliament working on the SDGs. In 2022, a French Member of Parliament submitted a comprehensive assessment of SDG gaps and priorities in France (Provendier, 2022). Public participation processes at various levels – through national legislature and citizen assemblies or councils – helps target better policy interventions and build legitimacy and ownership for SDG action.

2.2 The six SDG Transformations scorecards

The SDSN's Six Transformation Scorecards consist of a collection of headline policy measures to track the implementation of the SDGs. The scorecards complement the SDG Index, which is based on outcome data (for example, on poverty rates, life expectancy, and CO_2 emissions). To the extent possible, the scorecards focus on the enabling legal, regulatory, and investment conditions needed to achieve the SDGs and the objectives of the Paris Climate Agreement. Detailed information on indicator sources and thresholds as well as results for all 193 UN Member States are accessible online at www.sdgindex.org.

Transformation 1: Education, Gender, and Inequality

Education builds human capital, which in turn promotes economic growth, innovation, decent work, and the elimination of extreme poverty; it also helps overcome gender and other inequalities. Countries need to further expand and transform their education systems. SDG target 4.1 calls for universal access to twelve years of free primary and secondary education, of which at least nine years are compulsory. The scorecards show that many governments around the world currently fall short of this target. To reduce inequalities, countries need to expand their social safety nets. These need to be complemented by anti-discrimination measures (including gender), improved labour standards, and measures to end all forms of modern slavery, trafficking, and child labour. Investments in research and development can help to promote economic growth, which in turn can contribute to lowering inequalities.

Table 2.1: Transformation 1: Education, Gender, and Inequality

	Transformation 1: Education, Gender and Inequality				
	Years of free education in the law (#, 2020, UNESCO)	Years of compulsory education in the law (#, 2020, UNESCO)	Commitment to Reducing Inequalities: Tax Progressivity & Protection of Labor Right (score, 2020, Oxfam & DFI)	Gender Equality in the Law (score, 2022, World Bank)	Expenditure on research and development (% of GDP, 2018, UNESCO)
G20 Countries					
Argentina	12	12	0.63	79.4	0.5
Australia	13	10	0.69	96.9	1.9
Brazil	12	12	0.57	85.0	1.2
Canada	12	10	0.74	100.0	1.5
China	9	9	0.54	75.6	2.1
France	12	10	0.72	100.0	2.2
Germany	13	13	0.75	97.5	3.1
India	8	8	0.45	74.4	0.7
Indonesia	12	9	0.54	64.4	0.2
Italy	8	12	0.67	97.5	1.4
Japan	9	9	0.69	78.8	3.3
Korea, Rep.	9	9	0.63	85.0	4.5
Mexico	12	12	0.56	88.8	0.3
Russian Federation	11	11	0.67	73.1	1.0
Saudi Arabia	12	9	NO DATA	80.0	0.8
South Africa	12	9	0.69	88.1	0.8
Turkey	12	12	0.56	82.5	1.0
United Kingdom	13	11	0.67	97.5	1.7
United States	12	12	0.66	91.3	2.8
By regions					
East and South Asia	8.9	8.7	0.51	72.1	1.1
Eastern Europe and Central Asia	11.3	10.4	0.62	73.6	0.6
Latin America and the Caribbean	11.6	11.2	0.57	84.1	0.7
Middle East and North Africa	10.9	9.6	0.54	50.2	0.6
Oceania	8.8	9.6	NO DATA	61.9	NO DATA
OECD members	11.4	11.1	0.66	91.3	2.1
Sub-Saharan Africa	8.8	8.1	0.44	71.8	0.3
By income level					
Low-income countries	9.0	7.9	0.45	65.8	0.3
Lower-middle-income countries	8.7	8.7	0.48	70.4	0.5
Upper-middle-income countries	10.3	9.6	0.56	74.8	1.4
High-income countries	11.4	10.8	0.68	91.3	2.3
More ambitious	≥ 12 years	≥ 12 years	≥ 0.7	≥ 90	≥ 2.3%
Moderately ambitious	≥ 9 years	≥ 9 years	≥ 0.5	≥ 70	≥ 1.0%
Less ambitious	less than 9 years	less than 9 years	below 0.5	below 70	below 1.0%

Note: Regional and income level averages are population weighted. Details on definitions, sources, and thresholds are available on www.sdgindex.org. Source: Authors' analysis. First published in *Source: Sachs, J. D., Lafortune, G., Kroll, C., Fuller, G., & Woelm, F. (2022).*

Transformation 2: Health, Wellbeing and Demography

This Transformation promotes key investments in health and well-being. Central to it is SDG target 3.8, focused on achieving universal health coverage (UHC) and ensuring that all people have access to the health services that they need. Overall, and even before the pandemic, international institutions including the WHO spotlighted the slow rate of progress being made towards achieving UHC (WHO, 2019). Compared with the rest of the world, OECD countries tend to have greater shares of their population covered by a public or mandatory private health insurance and lower catastrophic out-of-pocket expenditure on health – although there are exceptions, including Mexico, Costa Rica, Poland, and the United States.

The SDGs also call on all countries to strengthen their capacity for early warning, risk reduction, and the management of national and global health risks (SDG target 3.d). The Global Health Security Index, a measure of pandemic preparedness, turned out to be a poor predictor of effective COVID-19 response as measured in numbers of cases and deaths (Lafortune, 2020b), indicating that there are other important factors at play which are not yet adequately captured by existing PTs. Looking ahead, it will be important to define solid international measures and monitoring systems to gauge countries' preparedness for global health security issues.

Table 2.2: Transformation 2: Health, Well-Being, and Demography

	Transformation 2: Health, Well-being and			
	UHC index of service coverage (score, 2019, WHO)	Catastrophic out-of-pocket health spending: Pop. spending 10%+ of household income on health (%, 2016, WHO)	Population coverage for health care (%, 2020, OECD)	Global Health Security Index: Pandemic Preparedness (score, 2021, NIS & Johns Hopkins)
G20 Countries				
Argentina	73.0	9.6	NO DATA	54.4
Australia	87.0	2.5	100.0	71.1
Brazil	75.0	11.8	NO DATA	51.2
Canada	89.0	3.5	100.0	69.8
China	82.0	24.0	NO DATA	47.5
France	84.0	NO DATA	99.9	61.9
Germany	86.0	1.5	100.0	65.5
India	61.0	17.3	NO DATA	42.8
Indonesia	59.0	4.5	NO DATA	50.4
Italy	83.0	9.3	100.0	51.9
Japan	85.0	10.5	100.0	60.5
Korea, Rep.	87.0	12.0	100.0	65.4
Mexico	74.0	1.6	72.4	57.0
Russian Federation	75.0	7.7	NO DATA	49.1
Saudi Arabia	73.0	1.3	NO DATA	44.9
South Africa	67.0	1.0	NO DATA	45.8
Turkey	79.0	3.2	98.8	50.0
United Kingdom	88.0	2.3	100.0	67.2
United States	83.0	4.3	90.3	75.9
By regions				
East and South Asia	67.7	17.3	NO DATA	44.3
Eastern Europe and Central Asia	69.1	10.3	NO DATA	43.2
Latin America and the Caribbean	72.6	10.4	NO DATA	45.4
Middle East and North Africa	68.5	16.4	NO DATA	30.7
Oceania	37.8	NO DATA	NO DATA	25.1
OECD members	82.5	5.9	94.4	63.5
Sub-Saharan Africa	44.5	8.4	NO DATA	32.9
By income level				
Low-income countries	42.4	7.9	NO DATA	28.6
Lower-middle-income countries	57.6	14.8	NO DATA	38.5
Upper-middle-income countries	76.4	15.5	NO DATA	48.0
High-income countries	83.1	6.4	96.7	64.0
More ambitious	≥ 80	≤ 4%	≥ 99%	≥ 80
Moderately ambitious	≥ 60	≤ 10%	≥ 95%	≥ 50
Less ambitious	below 60	above 10%	below 95%	below 50

Note: Regional and income level averages are population weighted. Details on definitions, sources, and thresholds are available on www.sdgindex.org. Source: Authors' analysis. First published in *Source: Sachs, J. D., Lafortune, G., Kroll, C., Fuller, G., & Woelm, F. (2022).*

Transformation 3: Energy Decarbonisation and Sustainable Industry

This Transformation aims to ensure universal access to modern energy sources; to decarbonise the energy system by mid-century in line with the Paris Agreement; and to reduce industrial pollution of soil, water, and air. Many countries, especially high-income and OECD countries, have made commitments to reaching net-zero emissions by mid-century. Over 130 countries are signatories to the UN Climate Ambition Alliance and more than 50 countries have anchored their net-zero commitment in a law or policy document (Net Zero Tracker, 2022; UNFCCC, 2022). However, there continues to be a major discrepancy between countries' self-declared ambitions and their tangible efforts and policies.

The Climate Action Tracker, an independent scientific analysis of governments' climate action, finds that not a single G20 country has adopted a sufficient mix of policies and actions compatible with achieving the objectives of the Paris Climate Agreement (Climate Action Tracker, 2022a). Many countries continue to provide significant subsidies for fossil fuels, which undermines efforts to decarbonise the energy system. Countries need to make sure that economic stimulus from COVID-19 recovery packages is aligned with the objectives of the Paris Climate Agreement and supports the transition to net-zero emissions by 2050.

Table 2.3: Transformation 3: Energy Decarbonisation and Sustainable Industry

	Transformation 3: Energy Decarbonization and Sustainable Industry				
	UN Climate Ambition Alliance Signatory (March 2022, UN)	**Policy- or NDC-based commitment to reach net-zero emissions by 2050** (March 2022, Net Zero Tracker)	**1.5°C Paris-agreement-compatible climate action** (March 2022, Climate Action Tracker)	**Unconditional fossil fuel subsidies** (USD per capita, March 2022, Energy Policy Tracker)	**Green COVID-19 Recovery** (1 worst – 5 best, April 2022, Green Economy Tracker)
G20 Countries					
Argentina	✓	✗	Highly Insufficient	29.82	2.00
Australia	✗	✓	Highly Insufficient	65.53	2.00
Brazil	✗	✗	Highly Insufficient	2.71	2.00
Canada	✓	✓	Highly Insufficient	537.99	4.00
China	✗	2060	Highly Insufficient	17.55	2.00
France	✓	✓	Insufficient	116.01	5.00
Germany	✓	✓	Insufficient	195.23	3.00
India	✗	✗	Highly Insufficient	27.19	2.00
Indonesia	✗	✗	Highly Insufficient	23.66	2.00
Italy	✓	✓	Insufficient	65.76	3.00
Japan	✓	✓	Insufficient	12.93	2.00
Korea, Rep.	✓	✓	Highly Insufficient	97.46	3.00
Mexico	✓	✗	Highly Insufficient	61.88	2.00
Russian Federation	✗	✗	Critically Insufficient	35.50	NO DATA
Saudi Arabia	✗	✗	Highly Insufficient	158.17	1.00
South Africa	✗	✗	Insufficient	10.66	2.00
Turkey	✗	2053	Critically Insufficient	165.68	2.00
United Kingdom	✓	✓	Almost Sufficient	589.53	4.00
United States	✗	✓	Insufficient	217.32	3.00
By regions					
East and South Asia	10 of 21	6 of 21	NO DATA	NO DATA	NO DATA
Eastern Europe and Central Asia	14 of 27	7 of 27	NO DATA	NO DATA	NO DATA
Latin America and the Caribbean	22 of 30	7 of 30	NO DATA	NO DATA	NO DATA
Middle East and North Africa	4 of 17	0 of 17	NO DATA	NO DATA	NO DATA
Oceania	12 of 12	2 of 12	NO DATA	NO DATA	NO DATA
OECD members	32 of 37	32 of 37	NO DATA	171.45	NO DATA
Sub-Saharan Africa	40 of 49	4 of 49	NO DATA	NO DATA	NO DATA
By income level					
Low-income countries	26 of 29	3 of 29	NO DATA	NO DATA	NO DATA
Lower-middle-income countries	31 of 49	6 of 49	NO DATA	NO DATA	NO DATA
Upper-middle-income countries	31 of 54	10 of 54	NO DATA	NO DATA	NO DATA
High-income countries	46 of 61	39 of 61	NO DATA	NO DATA	NO DATA
More ambitious	signatory	net-zero by 2050	1.5°C compatible	0 USD/capita	≥ 4
Moderately ambitious	N/A	net-zero by 2060	Almost sufficient	≤ 50 USD/capita	≥ 3
Less ambitious	not a signatory	no commitment	Insufficient	50+ USD/capita	below 3

Note: Regional and income level averages are population weighted. Details on definitions, sources, and thresholds are available on www.sdgindex.org. Source: Authors' analysis. First published in *Source: Sachs, J. D., Lafortune, G., Kroll, C., Fuller, G., & Woelm, F. (2022).*

Transformation 4. Sustainable Food, Land, Water, and Oceans

Today's land-use and food systems have led to persistent hunger, malnutrition, and obesity. They account for a quarter of greenhouse gas emissions, over 90 percent of scarcity-weighted water use, most biodiversity loss, the overexploitation of fisheries, eutrophication through nutrient overload, and the pollution of our water and air. At the same time, food systems are highly vulnerable to climate change and land degradation. Integrated strategies are needed to make food systems, land use, and oceans sustainable and healthy for people.

Efforts to track commitments and objectives on Transformation 4 are constrained by the complexity of policies relating to land use, ocean, and agriculture but also by the absence of internationally agreed targets for biodiversity and land degradation. Discussions are still ongoing about the "30x30" target for biodiversity, which proposes to place at least 30 percent of the Earth's surface under conservation status by 2030. Yet, there are concerns whether this target would be sufficient, whether the global community should instead focus on biodiversity "hot spots", and how to address potential negative impacts on communities living in these areas.

We consider that, for the moment, no comprehensive tracker and headline policy indicators are currently available (apart from indicators related to protected areas) to assess countries' commitment and efforts meaningfully and comprehensively on this Transformation. In 2020, as a core partner of the Food and Land Use Coalition (FOLU), SDSN started the development of the Food, Environment, Land and Development (FELD) Action Tracker to systematically analyse national policies and track national commitments and progress on implementation toward sustainable land use and food systems, and against targets under the SDGs and Paris Climate Agreement. A first assessment of Nationally Determined Contributions (NDCs) was issued at COP26 in Glasgow and showed that both commitments and focus on action for food and land transformation was largely insufficient. An update assessment is forthcoming in November 2022 (FELD, 2021and 2022).

Box 1: FELD Action Tracker (Tracking Government Efforts for SDG Transformation 4)

The (FELD) Action Tracker is a strategic initiative under the Food and Land Use (FOLU) Coalition, led by the SDSN. The Action Tracker complements other initiatives by the Coalition, which is dedicated to providing practical support to countries' transformation of their food and land use systems. It does so by systematically analysing national policies; by tracking the resulting implementation and other related actions; by identifying good practices to be shared on a special platform; and by assessing specific impacts and overall progress against national and global strategies and targets under the Paris Climate Agreement and the SDGs.

While many elements of the required transitions are generally known, making them operational is highly dependent on context and on the ability of countries and the international community to learn what policy measures work best in their contexts. In the case of food and land-use systems, the challenge of tracking is further amplified by varying and highly fragmented policy approaches in many countries. The FELD action tracker with its partners in FOLU and beyond systematically collect, review, analyse and assess existing national policies to better understand and track developments in and across sectors and countries. They also provide this information for countries and their partners as a collective, dynamic resource in support of national efforts, as well as for understanding where countries and the world are in terms of progress against set goals and targets.

FELD and its partners' analyses, tools, and resources focus on the practical needs of countries and national stakeholders in the challenge of integrating and strengthening complex policies across sectors and jurisdictions. Also, FELD's integrated analyses complement the ongoing work of other organisations and UN agencies to strengthen evidence-based, country-driven operationalisation of policies based on what works and is most effective in different food and land-use contexts.

FELD makes its databases of national policies, its analyses, tools, and other practical resources available for all countries on the FELD web platform. Over time this website will expand its resources, showcasing more of FELD's own analyses and country-specific sections in coordination with its partners at FOLU and beyond.

Transformation 5. Sustainable Cities and Communities

Cities and other urban areas are home to around 55 percent of humanity and 70 percent of global economic output. By 2050, these shares will increase to 70 and 85 percent, respectively (FOLU & FELD, 2021b). According to the OECD, 105 of the 169 SDG targets will not be reached without proper engagement of sub-national governments (OECD, 2020c). Many urban organisations and associations have incorporated the SDGs in their work programmes, including UN-Habitat, the United Cities and Local Governments (UCLG), C40, the OECD, Local Governments for Sustainability (ICLEI), and others. The COVID-19 pandemic will likely have lasting impacts on urban mobility, land use, and transport systems in developed and developing countries alike.

By design, Transformation 5 would require regional and local PTs. These would notably track efforts at regional and city levels to curb urban pollution, strengthen access to public transport and mobility, and increase the affordability of housing. Other policy effort measures could be considered proxies of local governments' commitment to achieving the triple objective of being economically productive, socially inclusive, and environmentally sustainable. The SDSN is working with local partners to strengthen policy frameworks in regions and cities and the science-policy interface at the subnational level.

Transformation 6. Digital Revolution for Sustainable Development

Artificial intelligence and other digital technologies are disrupting nearly every sector of the economy, including agriculture (precision agriculture), mining (autonomous vehicles), manufacturing (robotics), retail (e-commerce), finance (e-payments, trading strategies), media (social networks), health (diagnostics, telemedicine), education (online learning), public administration (e-governance, e-voting), and science and technology more broadly. Digital technologies can raise productivity, lower production costs, reduce emissions, expand access, dematerialise production, improve matching in markets, enable the use of big data, and make public services more readily available. They can also improve resource-use efficiencies, support the circular economy, enable zero-carbon energy systems, help monitor and protect ecosystems, and assume other critical roles in support of the SDGs.

Tracking commitments and efforts towards Transformation 6 remains challenging as countries face very different challenges depending on their current level of digitalisation. For example, highly connected and digitised countries may need to prioritise cybersecurity, artificial intelligence, and e-government challenges. Less connected countries, however, may first need to focus on ensuring widespread and affordable internet access and computer literacy. We hope to integrate a scorecard for the 6th Transformation on harnessing the digital revolution in SDSN's Sustainable Development Report 2023.

2.3 Governments' SDG Commitments versus SDG Index Gap

Building on the SDSN Government Effort survey for the SDGs and Six Transformations scorecards, we now present pilot scores of governments' commitments and efforts for the SDGs (Figure 2.4). These scores range from 0 (very low SDG commitment) to 100 (very high SDG commitment) and cover all 61 countries in the 2022 SDG Policy Coordination Survey presented in section 3.1, including all G20 countries and most OECD countries. The technical details for constructing the scores are provided in annex 1.

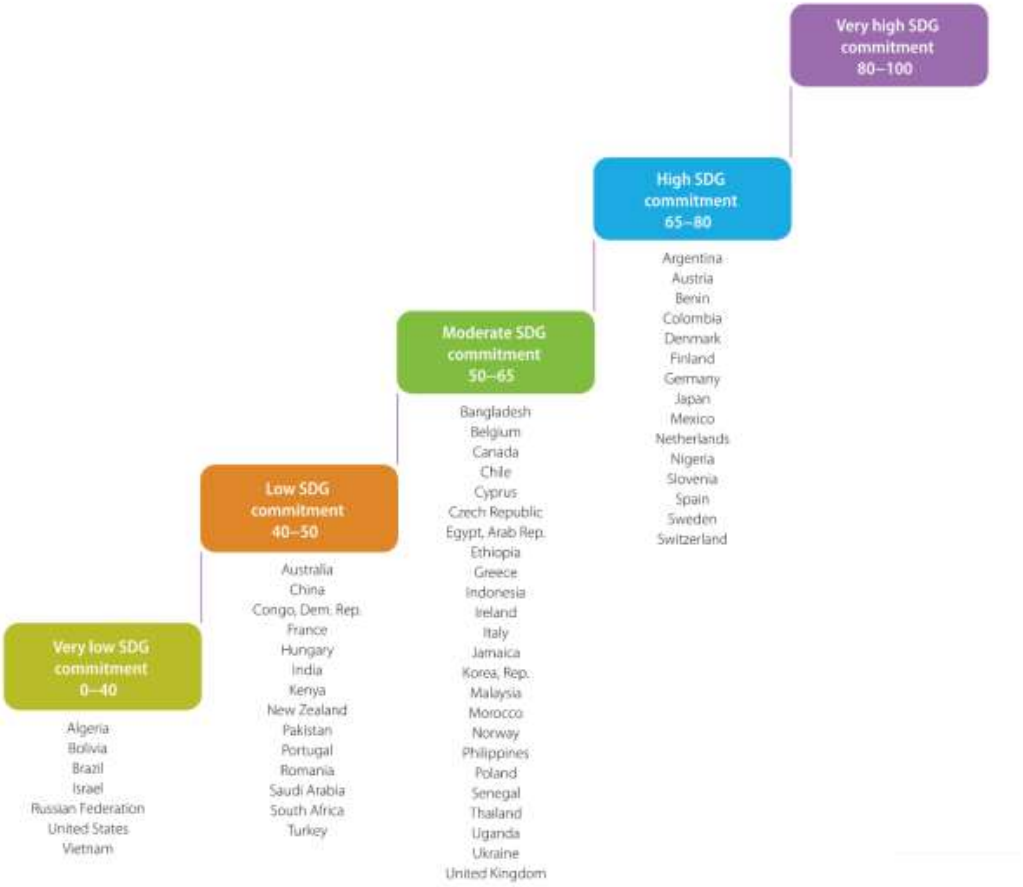
There are important caveats and limitations to the policy data that is currently available, especially with regards to Transformations 4, 5 and 6. Therefore, this year's edition should be considered a pilot and interpreted with caution. The methodology and rationale for these scores are explained in a separate paper available on www.sdgindex.org. We welcome critical comments and feedback that may help to strengthen future iterations of this work.

This pilot assessment reveals that policy efforts and commitments for the SDGs vary significantly across countries, including among G20 countries. The United States, Brazil and the Russian Federation show the least support for the 2030 Agenda and the SDGs. The United States is among the few UN member states that has never submitted a VNR. In these countries, despite low federal/national support for the 2030 Agenda and the SDGs, there can be strong commitments and efforts at subnational level, whether in regions, states, metropolitan areas or cities. The SDSN has worked, for instance, with associations of metropolitan and municipal areas in the United States and Brazil (ICS & SDSN, 2021; Lynch, A. et al., 2019). By contrast, Nordic countries and, among G20 countries, Germany and Mexico, show relatively more support for the SDGs.

"This pilot assessment reveals that policy efforts and commitments for the SDGs vary significantly across countries, including among G20 countries. The United States, Brazil and the Russian Federation show the least support for the 2030 Agenda and the SDGs."

Overall, however, no countries reach a score of 80 or above in terms of their commitments and efforts. This means all countries can improve their SDG commitments and efforts. Even among the top performers in Europe, the Climate Action Tracker's assessment is that the strategies and actions in place are insufficient to achieve the objectives set in the Paris Climate Agreement. Many of these countries could also further connect key instruments, such as national budgets and COVID-19 recovery plans, with the SDGs. Ambitious, sound national targets, strategies and plans are crucial to turn the SDGs into an action agenda.

Figure 2.4 Governments' Commitments and Efforts for the SDGs scores (pilot version)

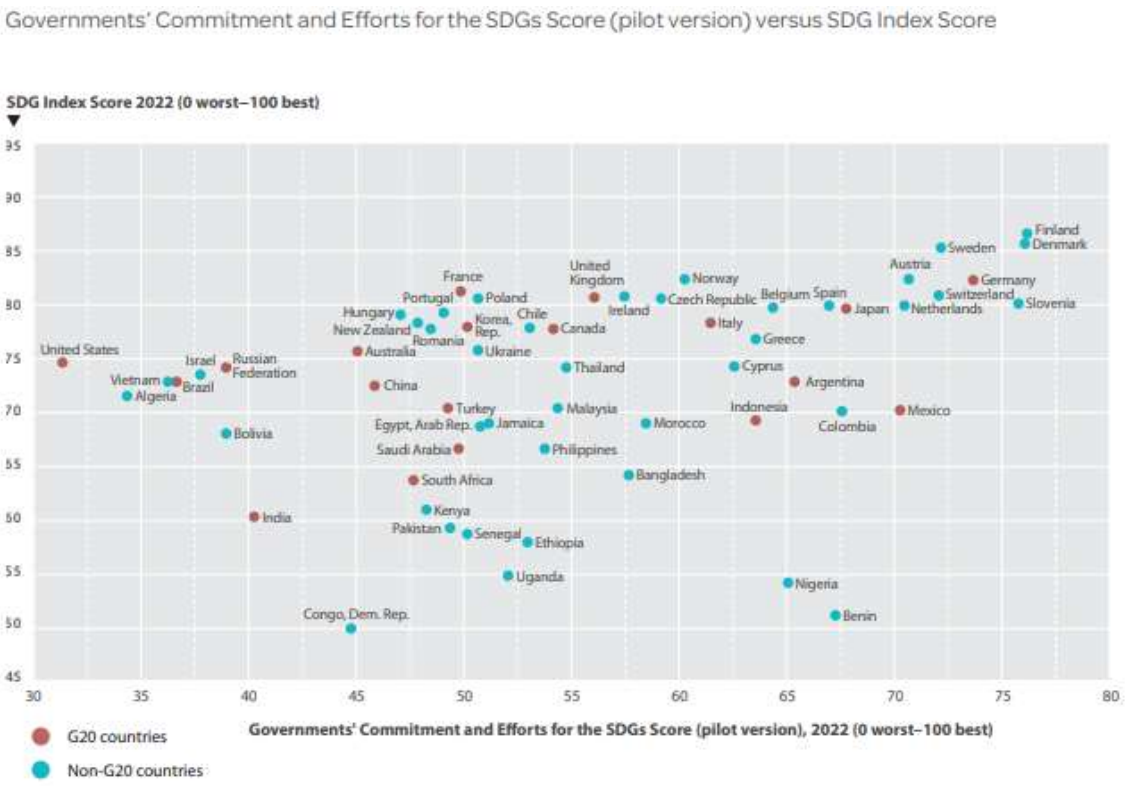


Source: Sachs, J. D., Lafortune, G., Kroll, C., Fuller, G., & Woelm, F. (2022).

"Countries such as Benin, Nigeria, and to some extent Mexico have large SDG Index gaps but rather high policy effort scores, which might help achieve SDG results in the coming years. Interestingly, Benin and Mexico are two countries that issued SDG sovereign bonds in recent years."

As emphasised throughout this paper, the use and interpretation of PTs becomes particularly relevant when combined with other types of data, especially outcome data. Figure 2.5 shows the pilot score of Governments' Commitment and Efforts for the SDGs in relation to countries' scores on this year's SDG Index. Countries like Benin, Nigeria, and to some extent Mexico, have a large SDG Index gap but rather high policy effort scores, which might help achieve SDG results in the coming years. Interestingly, Benin and Mexico are two countries that have issued SDG sovereign bonds in recent years to scale-up sustainable development investments. Setting up the right policy frameworks for sustainable development, building on scientific knowledge and networks, and connecting these frameworks with discussions on access to financing should be major priorities of the international community for restoring and accelerating SDG progress by 2030 and beyond.

Figure 2.5: Governments' Commitment and Efforts for the SDGs Score (pilot version) versus SDG Index Score



Note: G20 countries in red. The score for Ukraine reflects the situation as of January 2022.

Source: Sachs, J. D., Lafortune, G., Kroll, C., Fuller, G., & Woelm, F. (2022).

3. Scaling-up the work on SDG policy tracking: Innovative tools and future research

This final section aims to identify ways to strengthen and scale-up the work on and the use of policy trackers to support SDG transformations. We discuss how Artificial Intelligence (AI) particularly natural language processing (NLP) and text mining, may help reduce the capacities and expertise needed to develop sound and timely PTs but also highlight the limitations of AI. We identify six major areas for future research at SDSN and beyond on PTs.

3.1 Innovative tools and instruments

An emerging approach to policy tracking is the use of AI, particularly NLP and text mining. There are many potential applications of AI for supporting policy tracking and analysis. Generally, natural language processing models involve text extraction from policy documents (e.g., extraction from PDF or optical character recognition), text pre-processing (e.g., stop word removal, lemmatization, and translation), and finally text analysis.

One promising use of AI for policy tracking is text classification, where an AI model identifies texts and paragraphs that of relevance to a specific issue. This does not replace the human qualitative expert analysis, but it can reduce the time and effort spent searching for and through documents. Text classification models are based either on a set of predefined rules (rule-based AI) or on a machine-trained classification model (machine learning).

Rule-based text classification models use a list of keywords or short phrases, which must be predefined by the policy tracking team. For example, for a tracker on decarbonisation policies, terms may include “net zero”, “clean energy”, and “electric vehicle”, among many others. It is not unusual for such lists to contain hundreds or even thousands of terms. The AI model then searches the text for these terms and provides a list of relevant documents and paragraphs to the policy analyst for further processing. Models can be configured in a number of different ways, for example, to identify only “education strategies” that mention the LNOB principle that underpins the Agenda 2030.

Unlike a rule-based approach, text classification based on machine learning does not require the policy tracking team to predefine a list of terms and phrases. Instead, the model “learns” the relevant terms and phrases on its own. However, a large corpus of several thousand documents must be provided to “train” the model. These documents must be manually pre-labelled by the policy tracking team. Many text classification efforts start with rule-based approaches to build a sizable corpus of labelled documents and then later use this corpus to train their self-learning classification model.

Aside from text classification, AI can also be used to perform other types of analyses. For example, it can provide a visual representation of the most used terms in a document in the form of a word cloud or by automatically generating a summary for each document. Topic modelling is an approach where an AI scans a corpus of documents and detects patterns of words and phrases within it. It then automatically generates clusters of word groups and similar expressions that best characterise a set of documents. Researchers can use this

preliminary analysis to select and categorise a wide range of source material without reading through all of it and to detect patterns that might not readily appear.

AI models are highly scalable and have very low marginal costs. However, the initial set up can be very time- and labour-intensive as it requires the creation of specialised document processing pipelines that need to be set up and developed by data scientists with expertise in the field.

NLP models yield results much faster than a manual, human analysis would. However, they may produce so-called "false positives" where text is incorrectly interpreted. Therefore, a manual verification of results is generally advised. NLP models may also be unable to conduct analyses that require a deep understanding of the text, such as determining whether a strategy is accompanied by a certain deadline or has a certain budget allocated. Most PTs that have integrated natural language processing pipelines do not rely exclusively on the machine-based assessment. Instead, they use these tools to support the policy analyst by pre-processing relevant documents and identifying relevant pages and paragraphs. This allows the policy analyst to focus their attention on the relevant sections of the policy (as determined, for example, by certain keywords) rather than having to read the policy in its entirety, easing and accelerating the work of the analyst. This way, the final assessment remains in the hands of the analyst who can ensure that false positives are ignored and that context is considered. SDSN is doing some pilot projects on how to use NLP within its work.

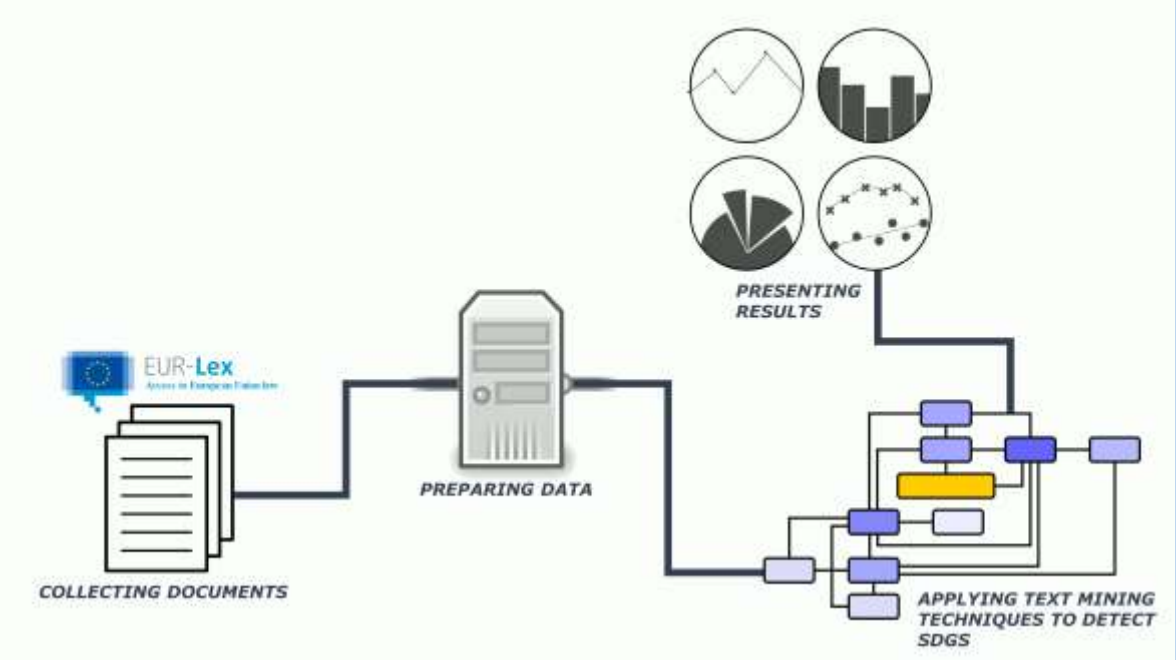
"AI models are highly scalable and have very low marginal costs. However, the initial set up can be very time- and labour-intensive."

Box 2: SDG Policy Mapping by the EU JRC

The Joint Research Centre of the European Commission (EU JRC) has developed an automated tool called the *SDG Mapper* for mapping policies to the SDGs based on text mining and rule-based natural language processing. Users can upload their own PDF or Word documents, which are then processed by the tool and scanned for several thousand keywords that have each been associated with one of the 17 SDGs and one of the 169 SDG targets.

In 2020, the JRC applied this approach to map 59 documents related to EU's recovery plans for the COVID-19 pandemic and found a particular focus on SDG 3: Good Health and Well-Being, SDG 8: Decent Work and Economic Growth, and SDG 13: Climate Action (Joint Research Centre, 2020). To ensure data quality, results were verified manually. Since then, this work has expanded to mapping close to 5,000 legal acts and documents issued by the European Union. The use of machine processing has allowed the work to reach a very large scale.

Figure 1: Automated mapping of policy documents to the 17 SDGs



Source: Joint Research Centre (2022)

3.2 Next steps

We underline six major priorities to increase the scope and robustness of PTs and make them even more useful for informing SDG policies and financing.

3.2.1 Track policy efforts for all Six SDG Transformations

A comprehensive assessment of government commitments and efforts for the SDGs should capture all major SDG Transformations. The review of existing PTs reveals a knowledge gap on tracking government commitments and efforts to implement certain key SDG transformations. We particularly underline the urgent need to better conceptualise and measure government efforts to implement **sustainable food and land policies**. This is the long-term objective of the FELD Action Tracker (Box 1). It would also be important to strengthen frameworks and analytical work for measuring sustainable and safe **digital infrastructure and policies,** possibly building on the work of UNIDO, ITU and UNCDF (among others). Considering that most countries are very much experiencing the impacts of climate change, a PT focused on **climate adaptation and resilience** would also be highly relevant, especially for SIDS and other vulnerable countries. Besides these efforts, we also intend to refine our pilot methodology and conduct sensitivity tests.

3.2.2 Conceptualise and prepare the first international spillover policy tracker

In a globalised world, countries' actions can negatively impact other countries. Over the years, the SDSN and other partners have documented the negative transboundary spillover effects generated by rich countries – especially in the OECD and EU – on the rest of the world through unsustainable consumption and supply chains. One key principle in SDSN's framework underpins all Six Transformations: circularity and decoupling. SDG17.14.1 calls for an indicator to capture "mechanisms in place to enhance policy coherence of sustainable development", yet there is currently still no comprehensive and robust measure of government efforts to address negative spillovers. The SDSN aims to strengthen its conceptual work and identify proxy measures to evaluate government commitments to addressing negative spillovers. This would look at financial instruments, development cooperation, regulatory and monitoring tools (including due diligence legislation, national and industry data), as well as public management practices (such as public procurement) among other areas. Identifying

3.2.3 Strengthen the connection between SDG efforts and access to financing

The SDGs are to a large extent an investment agenda for physical infrastructure (electrification, roads, renewable energy, digital) and human capital (education, health etc.). Despite this, about half of the countries in the world lack access to financing at reasonable market terms. There is growing evidence that markets are willing to lend to sovereign states at lower costs and over longer periods of time when sound SDG investment frameworks are in place. Through its SDG bond framework, the government of Benin managed to mobilise €500 million with a green premium ("greenium") with a maturity of 12.5 years. It is possible that markets expect higher future growth potential and hence a greater capacity to reimburse capital and interest when governments are serious about implementing the SDGs. In general, strengthening the narrative for a stronger connection between international financing and the soundness of SDG policies is an important priority for addressing the lack of fiscal space in Least Developed Countries (LDCs) and restore SDG progress.

3.2.4 Apply similar methods and tools at subnational level, including cities and metropolitan areas

This paper focuses on country-level PTs and initiatives. This being the case, SDSN's fifth SDG Transformations involves "sustainable cities and communities". To a large extent the implementation of the SDGs takes place at the regional and local level. A large share of COVID-19 recovery plans will be implemented by regional and local authorities. It is therefore important to strengthen our understanding of how cities and regions are leveraging the SDGs as a tool for planning and action. Building on SDSN's earlier work and global network but also the OECD's work programme on SDG in Cities and Regions, we plan to apply some of our tools and methods (including the survey of government efforts on the SDGs) to comparing efforts made by regions and cities for adopting and implementing sound SDG policies and investments.

3.2.5 Explore the role of other enablers, including sound public management practices and trust in institutions

As emphasised in previous sections, capturing the "effectiveness" gap is usually outside of the scope of most PTs. The observed effectiveness of sound policies depends on several factors that are often difficult to estimate. These include political leadership, the capacities and skills of civil servants, and the trust of the general population in their government. As shown in our analysis, the Global Health Security Index built on a sound conceptual framework and expert input but ended up poorly predicting early responses to COVID-19. Certain factors were largely outside the scope of the GHS Index: capturing the capacity of political leaders to mobilise the health system, but also cultural and other attributes of populations including popular trust in government policies. These affected people's adherence and to government regulations including wearing face masks and physical distancing. This highlights the importance of strengthening the role of sound public management and trust in institutions for implementing sustainable development policies.

3.2.6 Triangulate the results of policy trackers with the SDG Index and real time or near-real time SDG datasets

More analysis is needed to triangulate various SDG data initiatives in ways that generate innovative insights for SDG actions. In particular, PTs at y0 should be compared with SDG outcome assessments (indices and near-real time datasets) at y1+ to estimate "construct validity" (the ability of a measure to actually measure what it aims to measure) but also among themselves when they measure similar concepts to estimate "convergent validity" (whether two measures that are supposed to be measuring the same construct yield similar findings). This would increase trust in PTs, which inherently rely on more expert and subjective judgments and frameworks than outcome-based indicators. Triangulation between policy measures and outcomes would also make it easier to allocate finance and other resources on a needs and efforts basis.

Outlook

With less than a decade to go until 2030, it is now urgent that governments adopt coherent, sound, and ambitious policies that are aligned with the SDGs and Paris Climate Agreement. This working paper underlined the relevance and challenges of tracking policies and investment frameworks in the context of the SDGs and Paris Climate Agreement. The comparative analysis of existing PTs reveals that it is important to

- develop sound conceptual frameworks to track key SDG Transformations and
- capture not just ambitions and commitments but also actual policy actions (ex. regulations, subsidies, and investments) to get a complete and accurate picture of the "implementation gap".

Only the most advanced policy trackers manage to achieve this. For the SDGs and the Paris Climate Agreement, it is important to connect policy frameworks with the achievement of time-bound, ambitious SDG targets.

SDSN's pilot assessment of government efforts and commitments aims to provide a sound and timely measure for estimating the gap between rhetoric and actions on the SDGs. It builds on the organisation's global network of researchers and scientists. Looking ahead, the SDSN plans to work with partners to strengthen its methodology and expand country coverage, but also to develop sound policy trackers for key SDG transformations and principles including food and land systems and international spillover effects.

In conjunction with other measures – including outcome-based assessments like the SDG Index but also IAMSs – policy trackers can help accelerate the adoption of ambitious policies and investment frameworks and increase access to financing based on needs and efforts. A good understanding of how countries are performing on the SDGs and where they are headed will be crucial ahead of and during the September 2023 SDG Summit at Heads of States level.

****

Bibliography

Christopher & Zeckhauser. (2011). *The Methodology of Normative Policy Analysis*. https://dash.harvard.edu/handle/1/4669672

Climate Action Tracker. (2022a). *Climate Action Tracker*. https://climateactiontracker.org/countries/

Climate Action Tracker. (2022b). *Climate Action Tracker: CAT Rating Methodology: Overview*. https://climateactiontracker.org/methodology/cat-rating-methodology/

Climate Action Tracker. (2022c). *The Climate Action Tracker: About*. https://climateactiontracker.org/about/

FOLU & FELD. (2021). *From Global Commitments to National Action: A Closer Look at Nationally Determined Contributions from a Food and Land Perspective*. https://feldactiontracker.org/analysis-of-ndcs

Global Slavery Index. (2018). *Methodology—Government Response*. https://www.globalslaveryindex.org/2018/methodology/government-response/

Green Economy Coalition. (2022). *Green Economy Tracker | About*. https://greeneconomytracker.org/about

Haverkamp, C. (2022). *Policy tracking and gaps*. Unpublished presentation.

Hub staff report. (2020). *Here's the Johns Hopkins study President Trump referenced in his coronavirus news conference | Hub*. https://hub.jhu.edu/2020/02/27/trump-johns-hopkins-study-pandemic-coronaviruscovid-19-649-em0-art1-dtd-health/

ICS, & SDSN. (2021). *Índice de Desenvolvimento Sustentável das Cidades – Brasil—Sustainable Development Report*. https://www.sdgindex.org/reports/indice-de-desenvolvimento-sustentavel-das-cidades-brasil/

IIASA. (2017). *The World in 2050 (TWI2050): Pathways toward sustainable future, Annual Meeting*. https://previous.iiasa.ac.at/web/home/research/researchPrograms/TransitionstoNewTechnologies/170403-TWI2050.html

IMF. (2021). *Policy tracker—Policy Responses to COVID-19*. https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19

Jiang, L., & O'Neill, B. C. (2017). Global urbanization projections for the Shared Socioeconomic Pathways. *Global Environmental Change*, *42*, 193–199. https://doi.org/10.1016/j.gloenvcha.2015.03.008

Joint Research Center. (2020). *A sustainable recovery for the EU: A text mining approach to map the EU recovery plan to the Sustainable Development Goals.* Publications Office. https://data.europa.eu/doi/10.2760/030575

Joint Research Center. (2022). *KnowSDGs: SDG Policy Mapping*. https://knowsdgs.jrc.ec.europa.eu/intro-policy-mapping

Lafortune, G. (2020a). How much do we know about health preparedness? *SDSN*. https://www.unsdsn.org/how-much-do-we-know-about-countries-preparedness-to-respond-to-pandemics-insights-from-two-country-level-indices

Lafortune, G. (2020b, April 20). *How much do we know about countries preparedness to respond to pandemics? Insights from two country-level indices*. http://www.unsdsn.org/how-much-do-we-know-about-countries-preparedness-to-respond-to-pandemics-insights-from-two-country-level-indices

Lafortune, G., Cortés Puch, M., Mosnier, A., Fuller, G., Diaz, M., Riccaboni, A., Kloke-Lesch, A., Zachariadis, T., Carli, E., & Oger, A. (2021). *Europe Sustainable Development*

Report 2021: Transforming the European Union to achieve the Sustainable Development Goals. SDSN, SDSN Europe and IEEP.

Lafortune, G., Fuller, G., Schmidt-Traub, G., & Kroll, C. (2020). How Is Progress towards the Sustainable Development Goals Measured? Comparing Four Approaches for the EU. *Sustainability*, *12*(18), 7675. https://doi.org/10.3390/su12187675

Lafortune, G., & Schmidt-Traub, G. (2019). *SDG Challenges in G20 Countries*. https://onlinelibrary.wiley.com/doi/abs/10.1002/9781119541851.ch12

Lafortune, G., Wendling, Z. A., Miller, R., Schmidt-Traub, G., Esty, D., Woelm, F., & Baez, C. (2021). A new approach to measuring countries' impacts on the global commons based on production- and consumption-based accounting. In *Understanding the Spillovers and Transboundary Impacts of Public Policies: Implementing the 2030 Agenda for More Resilient Societies*. Organisation for Economic Co-operation and Development and European Commission Joint Research Center.

Lynch, A., LoPresti, A., & Fox, C. (2019). *2019 US Cities Sustainable Development Report*. https://www.sustainabledevelopment.report

Mölter, H., Lehne, J., Wehnert, T., & Klingen, J. (2021). *Green Recovery Tracker: Tracking the contribution of national covid-19 recovery efforts towards a climate neutral EU*. 380.

Net Zero Tracker. (2022a). *Net Zero Tracker*. https://zerotracker.net/

Net Zero Tracker. (2022b). *Net Zero Tracker*. https://zerotracker.net/

NTI, JHU, & EIU. (2019). *2019 Global Health Security Index*. 324.

O'Callaghan, B., Kingsmill, N., Waites, F., Aylward-Mills, D., Bird, J., Roe, P., Beyer, J., Bondy, M., Aron, J., & Murdock, E. (2021). *A ROADMAP TO GREEN RECOVERY*. 196.

ODI. (2018). *What do analyses of Voluntary National Reviews for Sustainable Development Goals tell us about 'leave no one behind'?*

https://cdn.odi.org/media/documents/What_do_analyses_of_Voluntary_National_Reviews_for_Sustainable_Development_Goa_NWI7pGE.pdf

OECD. (2020a). *Corona virus Country Policy tracker*. https://www.oecd.org/coronavirus/country-policy-tracker/

OECD. (2020b). *How can governments leverage policy evaluation to improve evidence informed policy making?* (p. 28).

OECD. (2020c). *A Territorial Approach to the Sustainable Development Goals: Synthesis report*. Organisation for Economic Co-operation and Development. https://doi.org/10.1787/e86fa715-en

Oldfield, J. (2020, March 2). *The Problem of Lagging Data for Development—And What to Do About It*. https://www.un.org/en/node/60463

Oxford. (2022). *Covid 19 government response tracker*. https://www.bsg.ox.ac.uk/research/research-projects/covid-19-government-response-tracker

Provendier, F. (2022). *ODD, tout est lié! - Rapport autour des objectifs de développement durable*. https://www.vie-publique.fr/rapport/284055-rapport-autour-des-objectifs-de-developpement-durable-odd

Sachs, J. D., Kroll, C., Lafortune, G., Fuller, G., & Woelm, F. (2021). *The Decade of Action for the Sustainable Development Goals: Sustainable Development Report 2021*. Cambridge University Press. https://doi.org/10.1017/97811089922411

Sachs, J. D., Lafortune, G., Kroll, C., Fuller, G., & Woelm, F. (2022). *Sustainable Development Report*. https://s3.amazonaws.com/sustainabledevelopment.report/2022/2022-sustainable-development-report.pdf

Schmidt-Traub et al. (2018). *National baselines for the Sustainable Development Goals assessed in the SDG Index and Dashboards*. https://www.nature.com/articles/ngeo2985

SDSN. (2022a). *RAPPORT SUR LE DÉVELOPPEMENT DURABLE POUR LE BÉNIN 2022*. https://www.sdgindex.org/reports/benin-sustainable-development-report-2022/

SDSN. (2022b). *SDGs Today*. https://sdgstoday.org

SDSN and OECD. (2019). *Long term pathways for the implementation of the SDGs: The governance implications*. https://irp-cdn.multiscreensite.com/be6d1d56/files/uploaded/OECD_SDSN-Working-Paper_2019_Final.pdf

UN. (2015). *Transforming our world: The 2030 agenda for sustainable development*. https://sustainabledevelopment.un.org/content/documents/21252030%20Agenda%20for%20Sustainable%20Development%20web.pdf

UN. (2022, August 8). *Countries | High-Level Political Forum*. https://hlpf.un.org/countries

UN Statistics Division. (2021). *IAEG-SDGs—SDG Indicators*. https://unstats.un.org/sdgs/iaeg-sdgs/

UNECE. (2021). *Measuring and Monitoring Progress Towards the Sustainable Development Goals*. United Nations. https://doi.org/10.18356/9789210051866

UNFCCC. (2022). *GCAP UNFCCC - Initiative*. https://climateaction.unfccc.int/Initiatives?id=95

Walk Free Foundation. (2018). *Global Slavery Index 2018*. https://downloads.globalslaveryindex.org/ephemeral/GSI-2018_FNL_190828_CO_DIGITAL_P-1651487528.pdf

WHO. (2019, September 9). *Primary health care on the road to universal health coverage: 2019 monitoring report*. https://www.who.int/publications/i/item/9789240029040

Appendix 1: Global, regional, and subnational SDG indices produced by the SDSN

Appendix 1: Overview of Policy trackers on the SDGs (non-exhaustive)

Tracker	Organization	Function	Method	Scope				Coverage	TImeliness
				Focus	SDG	Level	SDG Transformation	# of countries	Latest Year
Climate Action Tracker	Climate Analytics and New Climate Institute	Normative	Expert based	Climate	13	Goal	3	39 + EU	2022
Commitment to Development Index	Center for Global Development	Normative	Third party	Development cooperation	17	Goal	1 and 2	40	2021
Commitment to reducing inequality index	Oxfam	Normative	Third party	Inequality	10	Goal	1	158	2020
Energy Policy Tracker	IISD, IGES, OCI, ODI, SEI and Columbia University	Descriptive	Expert based	Energy, Climate	7	Goal	3	30 + EU	2022
Food, Environment, Land and Development (FELD) Action Tracker	UN SDSN, Food and Land Use Coalition (FOLU)	Normative	Qualitative, comparative policy analyis through desk review	Food and land use	2, 12, 13, 14, 15	Policy action	4	24	2022
Global Cybersecurity Index	ITU (International Telecommunication Union)	Normative	Government official, desk research	Internet	16	Target	6	193	2020
Global Diplomacy Index	Lowy Institute	Descriptive	Desk Research	Diplomacy	17	Goal	not applicable	61	2019
Global Health Security Index	EIU, John Hopkins & NTI	Normative	Expert based	Health Security	3	Target	2	195	2021
Global Slavery Index: Government Response Index	Walk Free Foundation	Normative	Expert based	Modern Slavery	8	Target	1	183	2019 (2018 from website)
Green Economy Tracker	The Green Economy Coalition	Normative	Desk research, crowd sourcing	Economy	8	SDG principle	3	41	2021
Leave-No-One-Behind Indices	ODI (Overseas Development Institute)	Normative	Expert based	Leave-No-One-Behind	1, 3, 4, 5 and 10	SDG principle (broader than goal level)	1 and 2	159	2020
Nature-based Solutions (NbS) Tracker	Nature4Climate, Metabolic/Arboretica	Normative	Combined AI & manual	nature-based solutions	14.15	Policy action	4	80	2021
Net Zero Tracker	Energy & Climate Intelligence Unit, Data-Driven EnviroLab, NewClimate Institute & Oxford Net Zero	Descriptive	Desk research	Climate	13	Goal	3	128	2022
Sustainable Governance Indicators	Bertelsmann Stiftung	Normative	Expert based	Economy, Society, Environment, Democracy	3, 4, 8, 13, 16	Goal	not applicable	41	2020
The Global State of Democracy Indices	IDEA (Institute for Democracy and Electoral Assistance)	Normative	Expert based	Democracy	16	Goal	5	162	2020 (published in 2021)
Transformation Index	Bertelsmann Stiftung	Normative	Expert based	Economy, Democracy	8, 16	Goal	not applicable	137	2022
Women, Business and the Law	World Bank	Normative	Expert survey	Gender Equality	5	Goal	1	190	2022

FELD Action Tracker by SDSN

https://feldactiontracker.org/

The FELD Action Tracker is a strategic initiative under the Food and Land Use (FOLU) Coalition, led by the UN Sustainable Solutions Network. The Action Tracker analyses national policies, tracks their implementation, identifies good practices, and assesses specific impact and overall progress against national and global strategies and targets under the Paris Climate Agreement and the SDGs.

SDG 15 In Development

Climate Action Tracker by Climate Analytics and NewClimate

https://climateactiontracker.org/

The Climate Action Tracker is an independent scientific analysis that tracks government climate action and measures it against the globally agreed Paris Agreement aim of "holding warming well below 2°C, and pursuing efforts to limit warming to 1.5°C." CAT quantifies and evaluates climate change mitigation targets, policies and action.

SDG 13 Transformation 3

LNOB Indices by Overseas Development Institute

https://odi.org/en/publications/leave-no-one-behind-indices-2020/

The LNOB indices assess and monitor the extent to which national systems, institutions and practices across 159 countries are set up and are ready to meet commitments enshrined in the 2030 Agenda for Sustainable Development.

SDG 1 SDG 3 SDG 4 SDG 5 SDG 10 Transformation 1 Transformation 2

Global Slavery Index: Government Response Index by Walk Free

https://www.globalslaveryindex.org/

The Government Response Index provides a comparative assessment of the legal, policy, and programmatic actions that 181 governments are taking to respond to modern slavery. This is based on data collected on 104 indicators that are relevant to understanding how each government is tracking towards achieving five milestones.

SDG 8 Transformation 1

Commitment to Development Index by Center for Global Development

https://www.cgdev.org/cdi

The Commitment to Development Index (CDI) ranks 40 of the world's most powerful countries on policies that affect more than five billion people living in poorer nations. The CDI focuses on development "spillovers," or policies that affect the development prospects of countries beyond one's own borders, and it covers eight distinct policy areas: development finance, investment, migration, trade, environment, health, security, and technology.

SDG 17 Transformation 1 Transformation 2

Global Health Security Index

by Nuclear Threat Initiative, Johns Hopkins Center for Health Security, and Economist Impact

https://www.ghsindex.org/

The GHS Index measures the capacities of 195 countries to prepare for epidemics and pandemics. It assesses countries across 6 categories, 37 indicators, and 171 questions using publicly available information.

SDG 3 Transformation 2

Commitment to Reducing Inequality Index

by Development Finance International and Oxfam International

https://www.inequalityindex.org/

A global ranking of governments based on what they are doing to tackle the gap between rich and poor. The Index ranks 158 governments across the world on their commitment to reducing inequality. The Index measures government policies and actions in three areas that are proven to be directly related to reducing inequality: public services, taxation, and workers' rights.

SDG 10 Transformation 1

Global Diplomacy Index by Lowy Institute

https://globaldiplomacyindex.lowyinstitute.org/

The Global Diplomacy Index visualizes the diplomatic networks of 61 G20, OECD and Asian countries and territories, allowing users to compare the most significant diplomatic networks in the world.

SDG 17

Energy Policy tracker by IISD, IGES, OCI, ODI, SEI and Columbia University

https://www.energypolicytracker.org

Updated on a weekly basis, this database provides the latest information about COVID-19 government policy responses from a climate and energy perspective. Their analysis provides a detailed overview of the public finance flows as determined by recovery packages across the G20. Filter by country, energy type, finance mechanisms, and other categories to see, at a glance, what types of measures countries are implementing to tackle the crisis and what is shaping our future energy system.

SDG 7 Transformation 3

The Global State of Democracy Indices

by IDEA (Institute for Democracy and Electoral Assistance)

https://www.idea.int/gsod-indices/democracy-indices

Measure democratic trends at the country, regional and global levels across a broad range of different attributes of democracy in the period 1975–2020. They do not provide a single index of democracy.

SDG 16 Transformation 5

Women, Business, and the Law by the World Bank

https://wbl.worldbank.org/en/wbl

Women, Business and the Law measures legal differences between men's and women's access to economic opportunities in 190 economies.

SDG 5 Transformation 1

Transformation Index by Bertelsmann Stiftung

https://bti-project.org/en/

The Transformation Index analyses and evaluates whether and how developing countries and countries in transition are steering social change toward democracy and a market economy. Guided by a standardized codebook, country experts assess the extent to which a total of 17 criteria have been met for each of the 137 countries. Those criteria are split up in 3 categories: Political transformation, Economic transformation and Governance.

SDG 8 SDG 16

Sustainable Governance Indicators (SGI) by Bertelsmann Stiftung

https://www.sgi-network.org/2020/

The SGI provide the most comprehensive survey of sustainable governance in OECD and EU countries. Each country is examined by two (or more) scholars with established expertise. The country experts' work is supported by coordinators, sector experts and the SGI team. The advisory board reviews and approves the findings.

SDG 3 SDG 4 SDG 8 SDG 13 SDG 16

Net Zero Tracker

By the Energy & Climate Intelligence Unit, Data-Driven EnviroLab, NewClimate Institute & Oxford Net Zero

https://zerotracker.net/

The Net Zero Tracker aims to increase transparency and accountability of net zero targets pledged by nations, states and regions, cities and companies. They collect data on targets set and on many factors that indicate the integrity of those targets — essentially, how serious the entity setting the target is about meaningfully cutting its net emissions to zero.

SDG 13 Transformation 3

Global Cybersecurity Index by ITU (International Telecommunication Union)

https://www.itu.int/epublications/publication/D-STR-GCI.01-2021-HTM-E

The Global Cybersecurity Index aims to better understand countries' commitments to cybersecurity, identify gaps, encourage the incorporation of good practices, and provide useful insights for countries to improve their cybersecurity postures. Each country's level of development or engagement is assessed along five pillars: Legal Measures, Technical Measures, Organizational Measures, Capacity Development and Cooperation – and then aggregated into an overall score.

SDG 16 Transformation 6

Green Economy Tracker by the Green Economy Coalition

https://greeneconomytracker.org

The first tool of its kind to benchmark how nations are transitioning to green and fair economies, with 21 trackable policies across 6 themes: Governance, Finance, Sector, People, Nature and Green COVID-19 Recovery. Those 21 policies are considered to be essential in the transition, and no country yet has undertaken them all.

SDG 8 Transformation 3

Appendix 3. Governments' Commitments and Efforts for the SDGs scores (pilot version) - Methodological note

Building on the SDSN survey of government efforts for the SDGs as well as the Six Transformations scorecards, the 2022 Sustainable Development Report presents pilot scores rating the commitments and efforts that governments have made towards achieving the SDGs. These scores range from 0 (very low SDG commitment) to 100 (very high SDG commitment) and cover all 60 countries in the 2022 SDG Policy Coordination Survey presented in section 3.1 of the Sustainable Development Report 2022, including all G20 countries and most OECD countries. See countries grouped by score in Figure 2.4.

Pillars and Indicators

The scores are based on 18 indicators on policy efforts and commitments, grouped into four pillars. The indicators cover metrics from the 2022 SDG Policy Coordination Survey as well as data on Transformation 1 (Education, Gender and Inequality), Transformation 2 (Health, Well-Being, and Demography), and Transformation 3 (Energy Decarbonization and Sustainable Industry). As discussed in section 3.2 of the Sustainable Development Report, gaps in policy data or an absence of international targets currently make it difficult to assess countries' efforts on Transformation 4 (Sustainable Food, Land, Water, and Oceans), Transformation 5 (Sustainable Cities and Communities), and Transformation 6 (Digital Revolution for Sustainable Development).

Indicators included in the Governments' Commitments and Efforts for the SDGs scores (pilot version)

Name	Source
Number of VNRs submitted	2022 SDG Policy Coordination Survey
Statement in support of SDGs made by head of state in the past year	2022 SDG Policy Coordination Survey
Existence of SDG strategy (overarching or at sectoral level)	2022 SDG Policy Coordination Survey
Integration of SDGs into most recent government budget	2022 SDG Policy Coordination Survey
Existence of national indicator set to track progress on SDGs	2022 SDG Policy Coordination Survey
Existence of a government lead unit responsible for coordinating the implementation of the SDGs	2022 SDG Policy Coordination Survey
Integration of SDGs into national COVID-19 recovery plan	2022 SDG Policy Coordination Survey
Years of free (or compulsory) education in the law	UNESCO
Commitment to Reducing Inequalities: Tax Progressivity & Protection of Labour Right	Oxfam & DEI
Gender Equality in the Law	World Bank
Expenditure on research and development	UNESCO
UHC index of service coverage	WHO

Catastrophic out-of-pocket health spending: Pop. spending 10%+ of household income on health	WHO
Global Health Security Index: Pandemic Preparedness	NTI & Johns Hopkins
UN Climate Ambition Alliance Signatory	UN
Policy- or NDC-based commitment to reach net-zero emissions	Net Zero Tracker
1.5°C Paris-agreement-compatible climate action	Climate Action Tracker
Unconditional fossil fuel subsidies	Energy Policy tracker

Pillar 1: SDG Policy Coordination

The first pillar is *SDG Policy Coordination* and contains seven indicators. Each indicator was assigned a score from 0 (very low SDG commitment) to 100 (very high SDG commitment) as shown in the following table. Since indicators mostly were dummy variables rather than numerical, we assigned a specific score to each value. Indicators were given equal weight, with the exception of the number of VNRs that a country has submitted due to its nature as the official SDG monitoring process and lead indicator of governments' efforts and commitments.

Indicators under Pillar 1 (SDG Policy Coordination)

Name	Weight	Score
Number of VNRs submitted	**50.00%**	
0		0.00
1		33.33
2		66.66
3		100.00
Statement in support of SDGs made by head of state in the past year	**8.33%**	
no		0.00
yes		100.00
Existence of SDG strategy (overarching or at sectoral level)	**8.33%**	
no		0.00
yes		100.00
Integration of SDGs into most recent government budget	**8.33%**	
no		0.00
yes		100.00
Existence of national indicator set to track progress on SDGs	**8.33%**	
no		0.00
no, but there is an online reporting platform		
yes		100.00
Existence of a government lead unit responsible for coordinating the implementation of the SDGs	**8.33%**	
no		0.00
yes		100.00
Integration of SDGs into national COVID-19 recovery plan	**8.33%**	
a COVID-19 recovery plan does not exist		no score
a plan exists, but the SDGs are not mentioned		0.00
a plan exists and the SDGs are mentioned only in the general narrative		50.0
a plan exists and the SDGs are mentioned as a central pillar		100.00

Pillar 2: Transformation 1

The second pillar is Transformation 1: Education, Gender and Inequality. It includes four indicators with equal weight. Each indicator was assigned a score from 0 (very low SDG commitment) to 100 (very high SDG commitment), by normalizing the indicator value based on a given upper bound and lower bound. The following formula was used:

$$Score = \frac{Value - Lower\ Bound}{Upper\ Bound - Lower\ Bound}\ x\ 100$$

For the first indicator under Transformation 1, we used either the number of years of free education in the law or the number of years of compulsory education in the law, depending on where the country performed better. We did this due to some gaps in the data as well as due to the fact that some countries do perform notably differently between these two metrics.

Table 2: Indicators under Pillar 2 (Transformation 1)

Pillar	Upper Bound	Lower Bound	Weight
Years of free (or compulsory) education in the law	12	6	25.00%
Commitment to Reducing Inequalities: Tax Progressivity & Protection of Labour Right	1	0.35	25.00%
Gender Equality in the Law	100	0.3	25.00%
Expenditure on research and development	4	1	25.00%

Pillar 3: Transformation 2

The third pillar is Transformation 2: Health, Well-being, and Demography. It includes three indicators with equal weight. Each indicator was assigned a score from 0 (very low SDG commitment) to 100 (very high SDG commitment), by normalizing the indicator value based on a given upper bound and lower bound. The following formula was used:

$$Score = \frac{Value - Lower\ Bound}{Upper\ Bound - Lower\ Bound}\ x\ 100$$

Table 3: Indicators under Pillar 3 (Transformation 2)

Pillar	Upper Bound	Lower Bound	Weight
UHC index of service coverage	100	38.2	33.33%
Catastrophic out-of-pocket health spending: Pop. spending 10%+ of household income on health	0	10	33.33%
Global Health Security Index: Pandemic Preparedness	100	90	33.33%

Pillar 4: Transformation 3

The fourth pillar is Transformation 3: Transformation 3: Energy Decarbonization and Sustainable Industry. It includes four indicators with equal weight. Each indicator was assigned a score from 0 (very low SDG commitment) to 100 (very high SDG commitment). Three indicators are not numeric in nature and were scored as indicated in the following table. The fourth indicator is numeric and was normalized based on a given upper bound and lower bound. The following formula was used for normalization:

$$Score = \frac{Value - Lower\ Bound}{Upper\ Bound - Lower\ Bound}\ x\ 100$$

Table 4: Indicators under Pillar 4 (Transformation 3)

Pillar	Upper Bound	Lower Bound	Weight	Score
UN Climate Ambition Alliance Signatory			**25.00%**	
no				0.00
yes				100.00
Policy- or NDC-based commitment to reach net-zero emissions			**25.00%**	
no				0.00
yes, but after 2050				50.00
yes, by 2050				100.00
1.5°C Paris-agreement-compatible climate action			**25.00%**	
critically insufficient				0
highly insufficient				15
insufficient				30
almost sufficient				80
Unconditional fossil fuel subsidies	**0**	**100**	**25.00%**	

Aggregation

Pillar Scores

Each pillar is assigned a score from 0 (very low SDG commitment) to 100 (very high SDG commitment) based on its indicators. The pillar score is a weighted average of the scores of the indicators under the pillar. The weights for each indicator are shown in the tables above.

$$Pillar\ Score = \sum_{i=1}^{n} Indicator\ Score_i \times Indicator\ Weight_i$$

Overall Score

The overall pilot score ranges from 0 (very low SDG commitment) to 100 (very high SDG commitment). It is calculated as the weighted average across the four pillars, using the weights indicated below. The pillar on SDG Policy Coordination was assigned a greater weight than the other pillars due to its direct link to the SDGs and its ability to more directly reflect governments' commitments and efforts for the SDGs.

$$Overall\ Score = \sum_{i=1}^{4} Pillar\ Score_i \times Pillar\ Weight_i$$

Table 5: Weights assigned to each pillar

Number	Pillar	Weight
1	SDG Policy Coordination	50.00%
2	Statement in support of SDGs made by head of state in the past year	16.66%
3	Existence of SDG strategy (overarching or at sectoral level)	16.66%
4	Integration of SDGs into most recent government budget	16.66%

Limitations

As discussed in detail in the Sustainable Development Report, the policy data currently available is subject to several caveats and limitations, especially with regards to Transformations 4, 5, and 6. Therefore, this year's scores of government efforts and commitments should be considered as a pilot and interpreted with caution. We welcome critical comments and feedback that may help to strengthen future iterations of this work.

Appendix 4. Government Efforts Survey results

	VNR	High-level statements	SDG strategy/ SDGs into sectoral action plans	SDGs in national budget		National SDG monitoring		Designated lead unit	SDGs in national COVID-19 recovery plan
	Year submitted	yes/no	yes/no	yes/no	Overarching narrative/section or budget line	yes/no	no. of indicators	yes/no	- yes, as a central pillar (5 mentions or more) - yes, in the general narrative (1-4 mentions) - no
Algeria	2019	no	yes	no		yes	71	no	
Argentina	2017, 2020, & 2022	yes	yes	no		yes	242	yes	
Australia	2018	yes	no	no		no, but online reporting		no	no
Austria	2020	yes	yes	yes	section or budget line	yes	200	yes	no
Bangladesh	2017 & 2020	yes	yes	no		yes	40	yes	no
Belgium	2017	yes	yes	yes	overarching narrative	yes	86	yes	yes, as a central pillar
Benin	2017, 2018, & 2020	no	yes	yes	section or budget line	yes	164	yes	yes, in the general narrative
Bolivia	2021	yes	yes	no		yes	104	yes	no
Brazil	2017	no	yes	no		no, but online reporting		no	
Canada	2018	yes	yes	no		yes	76	yes	no
Chile	2017 & 2019	no	yes	no		yes	231	yes	no
China	2016 & 2021	yes	yes	no		no, but it is planned		yes	no
Colombia	2016, 2018, & 2021	yes	yes	yes	overarching narrative	yes	161	yes	no
Congo, Dem. Rep.	2020	no	yes	no		yes	59	yes	
Cyprus	2017 & 2021	yes	no	yes	overarching narrative	yes	140	yes	yes, as a central pillar
Czech Republic	2017 & 2021	no	yes	no		yes	192	yes	no
Denmark	2017 & 2021	yes	yes	yes	section or budget line	yes	197	yes	yes, as a central pillar
Egypt, Arab Rep.	2016, 2018, & 2021	no	yes	no		no, but online reporting		yes	
Ethiopia	2017 & 2022	no	yes	yes	section or budget line	yes	60	no	no
European Union	planned (TBC)	yes	yes	yes	overarching narrative	yes	102	yes	yes, in the general narrative
Finland	2016 & 2020	yes	yes	yes	overarching narrative	yes	48	yes	no
France	2016	no	yes	no		yes	98	yes	no
Germany	2016 & 2021	yes	yes	yes	overarching narrative	yes	75	yes	yes, in the general narrative
Greece	2018 & 2022	yes	yes	no		yes	158	yes	yes, as a central pillar
Hungary	2018	yes	no	no		yes	103	yes	no
India	2017 & 2020	no	no	no		no, but online reporting		no	
Indonesia	2017, 2019, & 2021	yes	yes	yes	overarching narrative	yes	319	yes	no
Ireland	2018	yes	yes	yes	overarching narrative	yes	143	yes	no
Israel	2019	no	yes	no		no, but online reporting		yes	
Italy	2017 & 2022	yes	yes	no		yes	130	yes	yes, in the general narrative
Jamaica	2018 & 2022	yes	yes	no		yes	119	yes	
Japan	2017 & 2021	yes	yes	yes	section or budget line	no, but online reporting		yes	
Kenya	2017 & 2020	no	no	no		no		no	
Korea, Rep.	2016	yes	yes	no		yes	214	yes	no
Malaysia	2017 & 2021	yes	yes	yes	section or budget line	yes	146	yes	no
Mexico	2016, 2018 & 2021	no	yes	yes	section or budget line	yes	54	yes	yes, as a central pillar
Morocco	2016 & 2020	no	yes	no		yes	102	yes	
Netherlands	2017 & 2022	yes	yes	no		yes	267	yes	
New Zealand	2019	yes	no	no		yes	166	no	no
Nigeria	2017 & 2020	yes	yes	yes	section or budget line	yes	141	yes	yes, as a central pillar
Norway	2016 & 2021	yes	yes	yes	section or budget line	no, but online reporting		yes	no
Pakistan	2019 & 2022	no	yes	yes	section or budget line	no, but online reporting		yes	no
Philippines	2016, 2019, & 2022	no	yes	no		no, but online reporting	155	yes	
Poland	2018	yes	yes	no		yes	65	yes	yes, as a central pillar
Portugal	2017	no	no	yes	overarching narrative	yes	46	yes	yes, in the general narrative
Romania	2018	yes	yes	no		yes	98	yes	no
Russian Federation	2020	no	no	no		yes	175	yes	no
Saudi Arabia	2018 & 2021	no	yes	no		yes	244	yes	
Senegal	2018 & 2022	no	yes	no		yes	142	yes	yes, in the general narrative
Slovenia	2017 & 2020	yes	yes	no		yes	54	yes	yes, in the general narrative
South Africa	2019	yes	yes	no		yes	258	yes	no
Spain	2018 & 2021	yes	yes	yes	section or budget line	no, but online reporting		yes	yes, as a central pillar
Sweden	2017 & 2021	yes	yes	yes	overarching narrative	yes	45	yes	yes, in the general narrative
Switzerland	2016, 2018, & 2022	yes	yes	no		yes	108	yes	
Thailand	2017 & 2021	yes	yes	no		no, but online reporting		yes	yes, as a central pillar
Turkey	2016 & 2019	no	yes	no		yes	131	yes	yes, in the general narrative
Uganda	2016 & 2020	no	yes	no		yes	64	yes	
Ukraine*	2020	no	no	no		yes	183	yes	yes, in the general narrative
United Kingdom	2019	yes	yes	no		no, but online reporting		no	no
United States		no	no	no		no, but online reporting		no	no
Vietnam	2018	no	yes	no		yes	158	yes	

Source: Sachs et al, 2022.