Towards policy coherence

An assessment of tools linking the climate, environment and sustainable development agendas

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Executive summary

Since the adoption of important international frameworks such as the 2030 Agenda for Sustainable Development (2015), the Paris Agreement (2015) and the Sendai Framework for Disaster Risk Reduction (2015), it has become clear that climate action and the concept of sustainability are multidimensional, with complex linkages between economic, social and environmental aspects. It also is an accepted fact that policy coherence is essential to achieve the many interconnected objectives of the several climate, environment and development agendas.

Both the Global Sustainable Development Report (2019) and the discussions at the High-level Political Forum on Sustainable Development have emphasised the importance of taking into account the multitude of interlinkages between the 169 targets of the Sustainable Development Goals (SDGs) in policy formulation, in order to ensure the effective and efficient implementation of the 2030 Agenda.

However, identifying synergies and trade-offs constitutes a considerable challenge, since numerous multilateral processes and frameworks, including Multilateral Environmental Agreements (MEAs), cover issues tackled by the SDGs. In addition, the implementation of the SDGs at national level is largely dependent on sectoral policies and strategies. This makes true policy integration across thematic silos, communities and respective institutions difficult.

To help decision-makers identify and address existing interdependencies and interactions, a multitude of quantitative and qualitative methods and tools have been developed. However, due to the lack of a systematic mapping and the large variety of available tools as well as their complexity and different qualities, it is often not clear to policy-makers which tool can be useful for what policy issue.

The aim of this study is to assess the applicability and usefulness of existing tools for policy-makers. The study, which was undertaken by SD Strategies on behalf of GIZ, describes a first attempt to classify existing instruments and evaluate their practical benefits for policy-makers and to support them in identifying the right tool for a specific use.

The analysis shows that there is no 'silver bullet'. Rather, each tool serves specific purposes, and understanding what each tool can and cannot do is a first step towards using the right tool for a specific task and objective.

If selected and applied wisely, the assessed tools can help identify interrelations between the multitude of goals and actions, provide solid arguments for strategic dialogue as well as strengthen the formulation, implementation and verification of coherent and integrated policies and measures.

Project information

With the 2030 Agenda, the international community has set itself an ambitious plan for sustainable development. Considering the strong interlinkages between the Sustainable Development Goals (SDGs), the Agenda can only be achieved by pursuing an integrated approach to implementation. However, creating adequate structures and capacities for appropriate and coherent multi-stakeholder approaches to policy design and reporting on the SDGs are common challenges that must be overcome.

The Global Project for Support on SDG Review and Implementation Processes (SDG-RI) strengthens national implementation and reporting processes on SDGs in developing and emerging countries. To this end, SDG-RI supports the transnational network Partners for Review as a joint initiative of the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) and the Federal Ministry for Economic Cooperation and Development (BMZ) for exchange and peer-learning on reporting mechanisms, both nationally and internationally at the High-Level Political Forum (HLPF).

With its SDG Helpdesk, the project reacts on demand, primarily related to identifying and leveraging synergies in the implementation of the SDGs as well as other frameworks on climate (especially Nationally Determined Contributions), biodiversity, environment and disaster risk reduction. With a strong focus on the environmental dimension, the project advocates for a systemic approach and coherent policy-making in order to foster the implementation of the 2030 Agenda. Experiences and good practices are disseminated, recommendations collated and made available to policy-makers through policy briefs. This will contribute to an accelerated and ambitious implementation of the Agenda as a whole.

This project is part of the International Climate Initiative (IKI). The Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) supports this initiative on the basis of a decision adopted by the German Bundestag.

For more information and interest in cooperation, please contact

info-sdg-ri@giz.de.

1 Introduction

The year 2015 brought several breakthroughs for global sustainable development. With the adoption of important international frameworks such as the 2030 Agenda, the Paris Agreement and the Sendai Framework for Disaster Risk Reduction, governments around the world committed themselves to pursue a more sustainable and equitable development trajectory. Integrating these objectives into national policies and subnational action plans as a basis for successful implementation will require innovative approaches, substantial institutional capacities as well as financial resources and effective governance. The concept of sustainability is multidimensional, with complex linkages between economic, social and environmental aspects. The objectives of climate action and sustainable development are closely interconnected – one cannot be achieved without the other. Important synergies exist among the Sustainable Development Goals (SDGs) and among their 169 targets, as well as between the 2030 Agenda and other international frameworks.

Both the Global Sustainable Development Report (GSDR) (2019) and the discussions at the HLPF have emphasised the importance of taking into account such interlinkages in policy formulation, in order to ensure the effective and efficient implementation of the 2030 Agenda. They present policy-makers with the opportunity to capture co-benefits of action on each agenda while avoiding negative trade-offs due to conflicting targets or actions. Considering the paramount importance of increasing the ambition of worldwide implementation efforts, seeking synergies becomes indispensable. Implementing appropriate mechanisms for the identification of (co-)benefits will facilitate efficient resource use and effective attainment of policy goals. It will also lay the groundwork for the elevation of ambition toward the achievement of all agreed goals for 2030 and beyond.

However, identifying synergies and trade-offs constitutes a considerable challenge, since numerous multilateral processes and frameworks, including multilateral environmental agreements (MEAs), cover issues tackled by the SDGs. In addition, the implementation of the SDGs at national level is largely dependent on sectoral policies and strategies. This makes true policy integration across thematic silos, communities and respective institutions so difficult.

Mainstreaming the broad array of environmental, social and economic development objectives requires strong inter-institutional cooperation and inter-sectoral policy coherence. This represents a paradigm shift from the traditional sector-specific policy-making and implementation processes.

As a basis for smart policy design and implementation, effective tools are needed to analyse the interlinkages among individual SDGs as well as the 2030 Agenda and sectoral implementation processes. In recent years, a growing number of quantitative and qualitative methods and tools (hereafter referred to as "tools") have been introduced to help decision-makers identify and address existing interactions. These tools serve different functions and provide a wide range of services, such as descriptive analysis of potentials, scientific methods for quantifying and qualifying interactions, as well as guidelines for integrated policy-making.

This report presents findings of a systematic mapping and evaluation of existing tools that analyse and operationalise interlinkages between the Paris Agreement (2015), the 2030 Agenda (2015), and the Sendai Framework (2015), the Aichi Biodiversity targets (2010) and the New Urban Agenda (2016).

The report first introduces the methodology for the analysis of sustainability linkages assessment tools. It summarises key characteristics and trends identified among analysed tools and subsequently evaluates their applicability and usefulness, particularly to support decision-makers in designing integrated sustainable development strategies. Finally, it identifies the next steps tool developers and decision-makers need to take to advance towards international commitments.

2 Analytical approach

The overarching goal of this tool assessment is to support decision-makers in their search for frameworks, methodologies and models, which can help them design a policy, programme or strategy towards one or several SDGs.

To achieve this objective, the following steps have been carried out:

Selection of tools:

The selection of tools focuses on existing instruments that include one or more of the SDGs and enable the measurement of either their interconnections to one another and/or correlations with other international frameworks, particularly multilateral MEAs. It has been noted that the impacts of certain sectoral actions on climate outcomes, notably greenhouse gas (GHG) emissions, have already been well analysed and documented. Therefore, tools that exclusively assess economic (sub-)sectors have not been included in this study.

The aim was to cover both a broad range of sustainability and environmental frameworks as well as a wide variety of methods ranging from descriptive analysis and general guidance documents to qualitative studies and quantitative modelling tools.

An underlying selection criterion for this study has been the replicability and applicability of the screened tools for a broader audience of policy-makers with diverse needs.

As part of the tool identification process, the work of leading international organisations, think tanks and non-governmental organisations (NGOs), particularly those with work streams on monitoring, evaluating, assessing and visualising interlinkages between different international development and sustainability agendas, has been examined. The Sustainable Development Goals Acceleration Toolkit (UNSDG 2016) – a searchable database of tools and related materials – has also been used to identify relevant tools for the analysis.

The list of tools included in the analysis is by no means exhaustive but provides an overview of the most prominent tools currently available to policy-makers that match the selection criteria.

Categorisation:

Based on the selected tools a classification system has been developed to provide an overview containing key information on the reviewed tools in a condensed and easy-access format.

Evaluation:

The selected tools were evaluated considering the needs of policy-makers.

An evaluation and analysis table complements this report as a separate document. The full analytical table can be considered an important stepping stone of the analysis. It categorises each tool and describes its main characteristics as well as its purpose and functioning based on clearly defined criteria. It specifies data needs (such as complexity of input data) and outputs as well as ease of access, necessity of tool-maker support, and availability of templates. Main evaluation findings, including the tool's strength and optimal application, limitations, and the suggested overall level of relevance for policy design processes are also summarised.

This study presents a simplified version of the table in *Annex I* and *II[1]*. In *Annex I,* the assessed tools and their primary purposes are listed. *Annex II* gives an overview of the tools' scope of analysis as well as their relevance for users.

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1 For further information on the full table, please contact info-sdg-ri@giz.de.

3 Evaluation of existing tools

In total, 24 tools have been analysed. Each tool has been attributed to one of the following four categories:

- **Textual analyses ('Text')**

  Textual analyses identify conceptual and semantic similarities; some tools in this category do not go beyond establishing connections, others determine to what degree targets and strategies correlate (e.g. evaluation of the interaction).

- **Technical guidelines ('Guide')**

  This category refers to tools which provide step-by-step guidance for how to analyse synergies between policies. These tools focus on qualitative or quantitative investigation, or both.

- **Integrated models ('Model')**

  Tools in this category provide the analyst with an instrument for country- or entity-specific, in-depth quantitative study of correlations.

- **Visualisation software ('Visual')**

  Visualisation software tools are used to better illustrate correlations identified in earlier, separate quantitative or qualitative analysis.

The majority of the 24 tools assessed are either textual analysis tools or technical guidelines. Five tools in total are categorised as targeted, application-oriented and integrated assessment models. Two of the analysed tools facilitate data visualisation. Figure 1 below lists the analysed tools by category.

Figure 1: Overview of assessed tools by category

Textual Analysis (9)

- NDC-SDG Linkages
- SDG Climate Action Nexus tool (SCAN-tool)
- NDC Footprints
- SDG Interlinkages Analysis & Visualisation (V2.0)
- NDC-SDG Connections
- A Guide to SDG Interactions: From Science to Implementation
- Biodiversity and the 2030 Agenda for Sustainable Development – Technical Note
- Biodiversity Indicators Partnership (BIP) Dashboard
- Linking the SDGs with the New Urban

Technical Guidelines (8)

- NAP-SDG iFrame
- Sustainable Development Guidance
- SDG Accelerator and Bottleneck Assessment Tool (ABA)
- Rapid Integration Assessment (RIA)
- E-Handbook on Sustainable Development Goals
- NAMA Sustainable Development Evaluation Tool
- Guidance for NAMA Design in the context of NDCs: A Tool to Realize GHG Mitigation Under NDCs
- Mainstreaming, Acceleration, Policy Support (MAPS) Practical

Integrated Models (5)

- ICES (Inter-temporal Computable Equilibrium System)
- SDG Local and Urban Governance Dashboard (LOGOD)
- DesInventar (Disaster Information Management System) Sendai
- Integrated Sustainable Development Goals (iSDGs) Model
- UNDP Climate Action Impact (CLIP) Tool

Visualizing Software (2)

- iMODELER
- Kumu

3.1 Main trends and underlying patterns

Overall, a range of tools with diverse characteristics is available. For policy-makers it can be difficult to find tools suitable for their specific analytical needs. The multitude of methods can appear confusing, particularly given the complexity of many tools, limited ease of access or user-friendliness, and their partial overlap with one another. The challenge is further complicated by the existing lack of overviews and categorisations of tools, a gap which the present study seeks to address. The following section discusses some of the key trends that have emerged from the analysis of examined tools.

3.1.1 Subject areas of existing tools

Several attempts to assess climate goals and strategies, particularly NDCs, in relation to the SDGs have been made. These include concrete country-focused case studies as well as exercises aiming to develop a methodology (e.g. *Text 1, Text 2, Text 3, Text 5*). An overview of the most commonly used direction of analysis reveals that most tools examine how climate action impacts social, economic and environmental targets of the SDGs. Few reverse the direction of analysis to assess how achieving various SDG targets can contribute to climate change mitigation and adaptation objectives.

Attempts to systematically evaluate, or even quantify, correlations between the SDGs and MEAs other than climate are limited in number and depth. This study includes one tool looking at the linkages between the SDGs and the Sendai Framework (*Model 3*), two focusing on SDGs links with the Aichi Biodiversity Targets (*Text 7* & *Text 8*) and one tool aiming at assessing bi-directional links between 2030 Agenda and the New Urban Agenda (*Text 9*). An overview of the analytical direction of the tools can be found in *Annex II*.

3.1.2 Limited data availability

The level of detail and insight that can be achieved from tools that focus on identifying and assessing linkages between the MEAs and the 2030 Agenda is

a consequence of the design of the tool and the level of decision-making it targets (i.e., global and general correlations vs. location-specific analysis). The value of the tools focusing on the national and/or local level of decision-making is also determined by the specificity provided in a country's climate, biodiversity or other environmental commitments. NDCs, for example, are high-level strategic documents that generally refer to broader economic, social and environmental objectives. They usually provide overall GHG emission reduction commitments or abstract sectoral goals – and rarely provide indicators for measurement, reporting and verification of concrete action. The high level of provided information is largely insufficient as input that can be linked to individual SDGs or specific SDG sub-targets.

To address this challenge, NDCs need to be translated into specific actions and measures. This is a prerequisite for the use of tools to establish and meaningfully analyse linkages and contributions of climate action to the SDGs. This is also the case for national commitments made in other issue areas than climate mitigation and regarding other international frameworks than the UNFCCC and the Paris Agreement.

3.1.3 Qualitative analysis

14 of the 24 evaluated tools are predominantly qualitative in nature. As descriptive tools with little – if any – quantified evidence, all nine text analysis tools fall under this category. The second largest category of technical guidelines also includes several tools *(Guides 1, 4, 7 & 8)* which offer mostly descriptive advice to policy-makers on how SDG linkage assessments should be conducted. These vary in the level of detail, with some offering highly detailed step-by-step guidance and templates.

The value of globally-oriented qualitative tools (particularly purely descriptive ones) to concrete political decision-making at national or local levels is limited, since these tools are not designed to deliver detailed, location-specific results. These tools identify areas of synergies, 'hot spots' and 'blind spots'. Thus, they

offer a good starting point for inter-ministerial collaboration and advocacy for the development of integrated policy-making approaches and systems. This is especially true when enriched by the analysis of national and local level strategies and measures.

3.1.4   Quantitative analysis

Beyond the pure identification of synergies, quantitative analysis can deliver important input for informed, science-based, policy-making. Existing tools lending themselves for quantitative analysis include some which have been categorised as technical guidelines as well as the full list of integrated models. In contrast to qualitative technical guidelines, those that extend their focus to quantitative analysis (*Guide 2, Guide 3, Guide 5* & *Guide 6*) can provide much more concrete results, going beyond high-level analysis to support national decision-making. However, these guides do not include interactive tools with interfaces that greatly facilitate the assessment. This sets them apart from the group of integrated models.

The availability of integrated models is limited. An extended search could only identify five integrated models in total that are specific to the SDG context (*Model 1* to *Model 5*). Those that exist offer a broad range of assessment options, from rough scalar ratings to more precise quantification of impacts. These tools will be discussed in greater detail in section 3.2.

For quantitative tools, data availability is a central issue, and often a challenge. Limited obtainability, outdatedness, or insufficient disaggregation of data can constitute significant obstacles to conducting an effective assessment. Quantitative tools can be highly more specified with national data and estimate more precisely the extent of correlations. Accordingly, they can provide deeper analytical input to political decision-making. However, in order to be meaningfully adapted to national contexts, such tools require greater time and financial resources.

3.1.5   Other evaluated tools

Some of the analysed tools do not fall under either qualitative or quantitative analysis categories, but rather serve a different purpose. This includes visualisation tools. The analysis looked at two software tools which have been used to visualise correlations (*Visual 1* & *Visual 2*). These tools can be very helpful as means to support educational or communication activities, provided that the required data exists and is accessible. They can also be used for internal advocacy purposes – for example, a basic visualisation of synergies between the different policy agendas can serve as a basis for initiating cross-governmental collaboration. A tool that proved helpful for this analysis but is not itself an assessment instrument – and thus has not been included in the list of tools – is a search engine for tools, called Sustainable Development Goals Acceleration Toolkit (UNSDG 2016). It is a helpful resource for identifying methods, reports and case studies that can lead practitioners in the right direction of the guidance they seek.

3.2 Utilising tools for policy-making

The analysed tools can be used to support experts and policy-makers in understanding and operationalising synergies among the SDGs as well as between the SDGs and MEAs. Several key groups can be discerned, based on the key processes they focus on and aim to support. These include mapping the linkages between individual SDGs, analysing the interconnections between NDCs and SDGs, as well as analysing the impact of climate actions on SDGs or specific SDG targets. An overview of the main target groups of the tools as well as their targeted levels can be found in *Annex II*.

3.2.1 Mapping linkages among SDGs

The SDGs can be distinguished from other global frameworks by the amplitude as well as the interconnectedness of its issues. While perhaps not explicitly expressed in the formulation of the goals, linkages between the SDGs are clearly recognisable when analysing the targets. The individual targets often refer to multiple SDGs, creating a holistic network. Institutions tasked to track the progress of SDG implementation are therefore required to look simultaneously at several goals, which indicates the need to go beyond their immediate sector boundaries (Le Blanc 2015).

Several tools exist to facilitate this process. The majority of them are educational tools and materials for broadening the understanding about SDG linkages. They can support analysis across all SDGs or adopt a narrower focus by targeting a selected few.

A Guide to SDG Interactions (Text 6) is an informative resource that facilitates a more in-depth understanding of the positive and negative interactions among the SDGs. The guideline proposes a seven-point scale to quantify these synergies and conflicts.

The web-based textual analysis tool – *SDG Interlinkages Analysis & Visualisation (V2.0) (Text 4)* can support policy-makers in prioritising and monitoring the implementation of SDGs and enhance policy integration across the 17 goals. The tool was designed and used to identify and visualise interactions

between SDG targets in nine countries across South-East Asia. The tool offers an intuitive interface for exploring the interlinkages of SDGs on a country-by-country basis and supports cross-country comparison of the nine countries analysed. However, the specific regional focus limits its wider application and requires further adaptation if applied in other regions.

Other resources go further in looking for potential policy options to eliminate barriers and accelerate the implementation of SDGs. For instance, the *SDG Accelerator and Bottleneck Assessment Tool (ABA) (Guide 3)* provides a step-by-step approach to SDG-supportive policy design.

The Rapid Integrated Assessment (RIA) tool *(Guide 4)* also offers templates for streamlining the SDGs into sectoral policies and national development plans. Templates provide a useful start for the analysis; however, data collection for the analysis requires a higher input of time and effort.

The *E-Handbook on Sustainable Development Goals (Guide 5)* can be a particularly useful in addressing data-related challenges. The tool aims to support national statisticians in mainstreaming SDGs into national statistical systems, which facilitates effective monitoring and implementation.

Beyond the guides and textual analysis tools that support the mapping and analysis of links between SDGs, tools that facilitate quantification or more advanced modelling of linkages remain limited. The assessment revealed that existing tools are not open source and often require tool developers to be involved in facilitating the employment of the tools. However, some of these tools may be cost-free – for example, the visualisation tool of the *Inter-temporal Computable Equilibrium System (Model 2)* or the demo version of the *Integrated Sustainable Development Goals (iSDG) Model (Model 4)*.

3.2.2 Analysis of Nationally Determined Contributions against SDG targets

There is a growing field of research focusing on identifying and assessing the linkages between NDCs and national level SDG targets. Even though most of these tools do not move beyond the level of textual analysis, they still deliver highly relevant insights for policy-makers.

The *NDC Footprints* tool *(Text 3)* provides a broad overview of correlations between a given country's NDC and SDGs by highlighting references to the SDG targets included in national climate commitments. The analysis covers regions in Africa and Asia. The tool provides an overview of the extent of integration using a four-tier colour scheme to record the

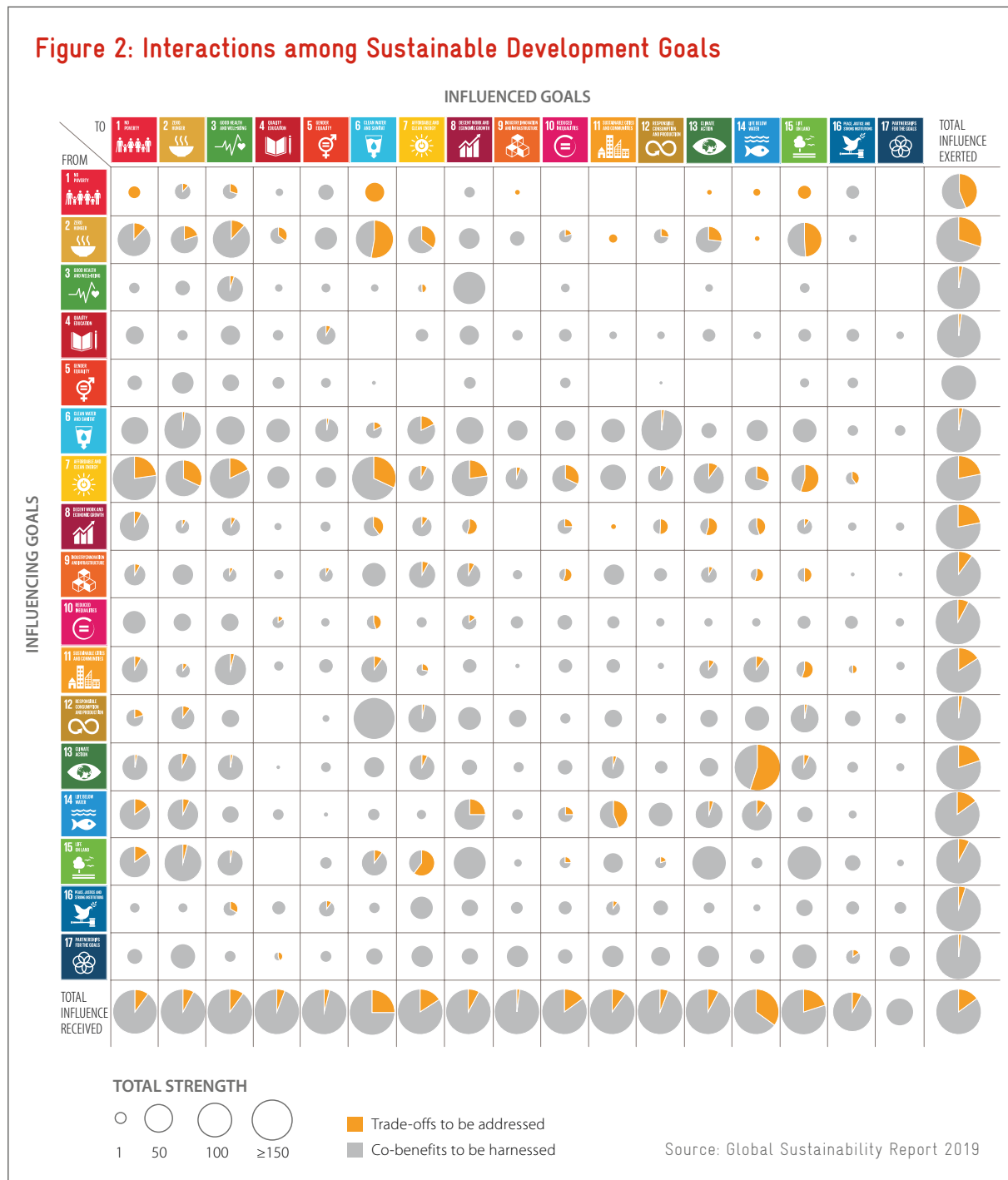Figure 2: Interactions among Sustainable Development Goals

Source: Global Sustainability Report 2019

Table 1: Range of SDGs covered by tools assessed

COVERED SUSTAINABLE DEVELOPMENT GOALS

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Text 1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Text 2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	
Text 3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Text 4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Text 5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Text 6		✓	✓				✓							✓			
Text 7	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Text 8	✓	✓		✓		✓			✓		✓	✓	✓	✓	✓	✓	✓
Text 9	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Guide 1		✓	✓		✓	✓		✓					✓	✓	✓		
Guide 2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Guide 3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Guide 4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Guide 5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Guide 6	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Guide 7	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Guide 8	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Model 1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Model 2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Model 3	✓										✓		✓				
Model 4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Model 5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Visual 1																	
Visual 2																	

findings. Such information supports high-level political messaging. However, the tool does not provide specific details about the actual policies and measures.

Several tools focus on assessing the impact of NDC implementation in achieving the SDGs, through the identification of co-benefits between the two policy agendas, such as the *NDC-SDG Linkages* tool *(Text 1)* and the *SDG-NDC Connections* tool *(Text 5)*. Both tools are particularly useful for multi-country and regional comparisons.

The recently updated *Sustainable Development Guidance (Guide 2)* offers a step-by-step manual for policy-makers on how to design, implement, and monitor NDCs that can effectively support SDG implementation. The tool outlines different methods for quantitative and qualitative analysis that can be used in multiple stages of a policy cycle.

Going a step further, the *Mainstreaming, Acceleration, Policy Support (MAPS) Practical Guidance: Aligning NDCs and SDGs (Guide 8)* aims at supporting NDC-SDG integration into long-term integrated planning. The tool can support the design of roadmaps towards 2030, which ensure a vertical and horizontal policy coherence. It provides step-by-step guidance for conducting the analysis and policy design – a process that is reliant on the availability of disaggregated data.

3.2.3 Analysis of the impact of specific climate actions on SDGs or SDG targets

Beyond the specific NDC focus, several tools analyse climate policies and actions on a broader scale, linking them to specific SDGs or SDG targets. Technical guidelines are available to policy-makers, providing high-level advice for mainstreaming SDGs into National Adaptation Plans (NAPs) and Nationally Appropriate Mitigation Actions (NAMAs).

NAP-SDG iFrame (Guide 1) outlines individual steps to create 'SDG-proof' NAPs, i.e. NAPs considerate of the SDGs and SDG targets. The guideline addresses different stakeholder perspectives and therefore provides a basis for a holistic assessment. However, it lacks the specific methodologies for each step.

The *NAMA Sustainable Development Evaluation Tool (Guide 6)* is an excel-based resource, which facilitates quantification of sustainable development performance indicators and sustainable development results achieved over the lifetime of the NAMA. However, the lack of a clear criteria for the selection of sustainable development indicators may raise questions about the objectivity of the assessment.

The *SDG Climate Action Nexus* tool *(Text 2)* is a recent methodology aiming to assess synergies and trade-offs between climate action and SDGs. The tool offers a clear methodology yet remains at a relatively high level. While the tool is not country-specific, it is possible to adapt the findings to a national context. However, this requires additional research and effort.

The *UNDP Climate Action Impact (CLIP)* tool *(Model 5)*, an integrated assessment model, supports project and programme-level assessments targeting regional, national, and local stakeholders alike. Of the assessed tools, CLIP enables the most detailed ex-ante and ex-post assessments of SDG impacts of climate measures and projects. It offers the ability to aggregate impacts of multiple actions, which can lay the foundation to design a broad climate and development strategy. Beyond the policy perspective, the tool can provide an independent analysis of a project's social and environmental impacts. Such analysis can support private sector investment decisions, resulting in higher impact on project beneficiaries. As with most tools facilitating in-depth quantitative assessment, meaningful use of the CLIP tool requires a large amount of data input, which makes the effort time- and resource-intense. Many countries and their decision-makers will not have such data and information at hand.

4 Key findings and concluding commentary

Well-designed climate and biodiversity policies can produce significant economic, social and environmental development co-benefits. Conversely, sustainable development strategies, programmes, plans, policies and measures can and should be climate- and biodiversity-proof. Identifying and capturing the synergies between different global sustainability agendas can maximise the use of existing resources while unlocking an inclusive and sustainable growth trajectory for the twenty-first century (New Climate Economy 2018). Consequently, the interest in tools that can facilitate integrated climate, biodiversity and sustainable development planning has grown immensely in recent years. Various tools are now publicly available to decision-makers. However, the assessment of the selected tools undertaken here reveals specificity of scope of existing tools, methodological gaps as well as the complexity of employing available methods in concrete policy design.

4.1 Finding the right tool

No single 'silver bullet', or all-encompassing model, exists for *analysing the linkages* between SDGs and MEAs – let alone *designing their integration*. Rather, the examined methods have been developed for specific and limited purposes and should be selected based on the desired/required type and level of detail of information.

Visualisation software can be helpful to showcase interrelations – in the issue area at hand as much as elsewhere – but it does not provide any data sets or even basic assumptions for decision-makers tasked with identifying pathways for integration.

Text analysis, often in the form of reports, maps and visualises correlations between environmental and development goals, sometimes also indicating the magnitude of the relationship. This strand of work is most useful for educational purposes as it helps to understand basic effects of individual items on the development and environmental agendas on one another. It facilitates 'entry-level' analysis of the potential synergies and trade-offs. This is an important first step for policy makers who are introducing the concept of integrated sustainable development planning in their countries. These tools are also useful for building the political support required to ensure that the approach of identifying and harnessing synergies between different policy fields can be mainstreamed into national policy-making processes.

Taking the next step towards operationalising identified synergies, however, requires more in-depth analysis. The analysis distinguishes between two more concrete types of 'instruments' that can be directly applied in a given geographical area such as a country or a region – technical guides and integrated models.

Technical guides ideally serve as step-by-step, how-to manuals for analysing the impacts of development and environment on one another. As noted earlier in this report, some of these guidelines can support detailed quantitative analysis. In some cases, these compendia will provide templates that help undertake the assessment.

Integrated models can be considered the most advanced category of tools: they can analyse, measure, and quantify the impact of environment/climate policies on social and economic development. The major

downside of the few available tools in this category is that they are usually not (fully) open source; their application is resource-intense, both in terms of time and money. The use of integrated models requires lengthy and costly engagement with the tool developers for access, understanding and use of the tools. In addition, extensive time and financial resources are needed for gathering the required extensive data sets, making decisive assumptions at many analytical stages, as well as finding and hiring the people who can support the operation of the model.

4.2 Next steps and recommendations

The analysis of correlations between various international sustainable development frameworks is still a relatively new field of study. Tools which facilitate such analysis (as well as assessment of the status of these tools) require further research and regular updates.

Access to quality data is crucial for conducting meaningful analysis that can support evidence-based political decision-making. The first important step in gathering quality data is to mainstream sustainable development and environmental indicators into national statistical systems. Hands-on guidance to national statisticians for how to measure and monitor progress on individual SDG indicators now exists.

As an immediate next step, the scope of such guides should be extended to include indicators central to the implementation of the MEAs. Moving ahead, policy coherence could be further strengthened through a comprehensive review of existing indicators and design of joint indicators for monitoring, reporting, verifying and evaluating the implementation of different global agendas.

The analysis of correlations between various international sustainable development frameworks is still a relatively new field of study. Tools which facilitate such analysis (as well as assessment of the status of these tools) require further research and regular updates to maintain their relevance in the fast-changing international policy landscape.

One important observation that practitioners and tool-makers alike need to be aware of is the fact that observations of historical impacts are not necessarily an indicator of how future correlations will look like; for example, the resource-intense growth paths of the past might not be those producing the most development benefits in the future. A paradigm shift toward deep economic and social transition under an overarching mandate of truly sustainable development will mean new perspectives on how to value development and new indicators to measure it. Tools need to reflect and adapt to these new realities, from exploring new qualitative relations to assigning new numerical values, tools need to reflect and adapt to these new realities.

An interesting finding of this study is that a wide majority of analysed tools focus on assessing the development (SDG) impacts of climate action while few examine the inverse. It seems that after the first era of international analysis during which the main focus was on the climate performance of individual economic sectors – for example, greenhouse gas emissions resulting from electricity generation – the current research focuses on the development impacts of climate action, possibly to create consensus around more ambitious commitment toward overarching mitigation and adaptation goals. Ultimately, however, a full integration of climate action with sectoral and broader development plans is needed – including underlying development goals and targets, is needed

to put economies and societies on a truly sustainable social, economic and environmental trajectory.

The further advancement of tools should be centred on two key action areas, and the current NDC and SDG review processes provide outstanding opportunities to get this work underway. First, significant focus should be put on the analysis of correlations in causal directions, from MEAs to SDGs and from SDGs to MEAs.

Second, tools are required that support the mainstreaming of climate and biodiversity policies and disaster risk management strategies into sectoral and broader mid- and long-term development plans.

Many planning and analysis tools exist at the sectoral level. However, there appears to be a 'challenge of scale' that poses important questions: How can the tools discussed here be clustered and adequately linked with detailed sectoral simulations and insights? How can this be done at an aggregate level that can be 'digested' and operationalised by high-level decision-makers, who need to make decisions on the profound, all-encompassing transitions required for the successful implementation of the SDG and MEA agendas? Embedding deep sectoral analysis in the policy formulation process is needed to identify interactions among concrete activities. This will be crucial for smart and effective policymaking. Yet, it is a highly complex and resource-intense process not foreseen by the current modus operandi of government operations in most countries.

Moving forward, the here conducted assessment of effectiveness and suitability of existing tools to support policy-making processes should be accompanied by answering broader but equally important questions: (1) Will the tools available to decision-makers be used in practice? (2) Will the outputs of such analysis have real consequences for political action? (3) How can the monitoring and measurement of the effectiveness of political action improve political decision-making over time?

4.3 Conclusion

Coherent design and implementation of integrated plans, policies, and measures can be supported through the application of smart quantitative and qualitative tools and methods. Analytical tools can help to identify and capture the synergies between different global sustainability agendas and can play an important role in supporting the national policy dialogue, particularly at times when scientific facts and traditional sources of information are challenged.

The tools can help identify areas in need of discussion between different stakeholders and prepare argumentation. The clustering of tools into the four categories used in this analysis allowed better understanding of their performance capabilities and can be utilized by policy-makers to find the right fit for their individual purposes.

At this point, it is important to bear in mind that tools cannot substitute for stakeholder discourse or make it obsolete. Meaningful application of integration-focused analytical resources ultimately requires a whole-of-government approach and mainstreaming of the several facets of sustainable development in policy formulation processes. The success of such a paradigm shift is highly dependent on factors such as political will and effective multi-stakeholder collaboration, which can be difficult to achieve. Politicians, decision-makers, commentators and the informed public need to negotiate if and how environmental as well as social and economic development agendas should be integrated. While tools assess, analyse, and support the development of an ideal vision, their application takes place in a world of policy-making – one of different views, interests and convictions – that might limit their effectiveness more than their own quality. Analysis of the interplay between technical assessments and political decision-making is another area of important research which would benefit both realms and enhance the meaningful application of tools in general.

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Annex I – List of assessed tools and their purposes

	TOOL NAME	INSTITUTION	PRIMARY	
			VISUALISATION	INFORMATIVE/ EDUCATIONAL
Text 1	NDC-SDG Linkages	World Resource Institute (WRI); NDC Partnership	✓	✓
Text 2	SDG Climate Action Nexus tool (SCAN-tool)	NewClimate Institute; Energy research Centre of the Netherlands (ECN)	✓	✓
Text 3	NDC Footprints	The Energy and Resources Institute (TERI)		✓
Text 4	SDG Interlinkages Analysis & Visualisation (V2.0)	Institute for Global Environmental Strategies (IGES)	✓	✓
Text 5	NDC-SDG Connections	German Development Institute (DIE); Stockholm Environment Institute (SEI)		✓
Text 6	A Guide to SDG Interactions: From Science to Implementation	The International Science Council (ISC)		✓
Text 7	Biodiversity and the 2030 Agenda for Sustainable Development – Technical Note	Convention on Biological Diversity (CBD)		✓
Text 8	Biodiversity Indicators Partnership (BIP) Dashboard	UN Environment World Conservation Monitoring Centre	✓	✓
Text 9	Linking the SDGs with the New Urban Agenda	Compass Housing Services Co Limited (Compass)		✓
Guide 1	NAP-SDG iFrame	UNFCCC; Least Developed Countries Expert Group (LEG)		
Guide 2	Sustainable Development Guidance	World Resources Institute; UNEP DTU Partnership		
Guide 3	SDG Accelerator and Bottleneck Assessment Tool (ABA)	United Nations Development Programme (UNDP)		
Guide 4	Rapid Integration Assessment (RIA)	United Nations Development Programme (UNDP)		
Guide 5	E-Handbook on Sustainable Development Goals	United Nations Statistics Division (UNSD)		
Guide 6	NAMA Sustainable Development Evaluation Tool	UNEP DTU		
Guide 7	Guidance for NAMA Design in the context of NDCs: A Tool To Realize GHG Mitigation Under NDCs	UNEP DTU Partnership		
Guide 8	Mainstreaming, Acceleration, Policy Support (MAPS) Practical Guidance: Aligning NDCs and SDGs	United Nations Development Programme (UNDP)		✓
Model 1	ICES (Inter-temporal Computable Equilibrium System)	Fondazione Eni Enrico Mattei (FEEM)	✓	
Model 2	SDG Local and Urban Governance Dashboard (LOGOD)	United Nations Development Programme (UNDP) Regional Hub for Asia Pacific; Microsoft Innovation Centre in Nepal		
Model 3	DesInventar (Disaster Information Management System) Sendai	United Nations Office for Disaster Risk Reduction (UNISDR)	✓	✓
Model 4	Integrated Sustainable Development Goals (iSDGs) Model	Millennium Institute	✓	
Model 5	UNDP Climate Action Impact (CLIP) Tool	United Nations Development Programme (UNDP)	✓	
Visual 1	iMODELER	CONSIDEO GmbH	✓	
Visual 2	Kumu	Kumu Inc	✓	

1 The links were updated as of 30 July 2019.

PURPOSE(S)		URL[1]
POLICY DESIGN	MONITORING/ COUNTRY ASSESMENT	
	✓	https://www.climatewatchdata.org/ndcs-sdg; https://ndcpartnership.org/climate-watch/ndcs-sdg
✓		www.ambitiontoaction.net/scan_tool/
	✓	http://www.ndcfootprints.org/index.php
		https://sdginterlinkages.iges.jp/
		https://klimalog.die-gdi.de/ndc-sdg/; https://klimalog.die-gdi.de/ndc/#NDCExplorer
		https://council.science/publications/a-guide-to-sdg-interactions-from-science-to-implementation
		https://www.cbd.int/development/doc/biodiversity-2030-agenda-technical-note-en.pdf; https://www.undp.org/content/dam/undp/library/SDGs/English/Biodiversity_2030_Agenda_PolicyBrief.pdf
✓		https://www.bipindicators.net
		https://www.sdgsnewurbanagenda.com/home.html
✓	✓	https://de.slideshare.net/napcentral/the-napsdg-iframe; https://unfccc.int/sites/default/files/leg_presentation_may_2017_bonn_final.pdf
✓	✓	https://climateactiontransparency.org/icat-guidance/sustainable-development/
✓	✓	https://www.undp.org/content/undp/en/home/librarypage/sustainable-development-goals/sdg-accelerator-and-bottleneck-assessment.html
✓	✓	https://www.undp.org/content/dam/undp/library/Sustainable%20Development/SDG%20Tools/Rapid_Integrated_Assessment_10May2017.pdf
	✓	https://unstats.un.org/wiki/display/SDGeHandbook/Navigation+Page
	✓	https://www.undp.org/content/undp/en/home/librarypage/environment-energy/mdg-carbon/NAMA-sustainable-development-evaluation-tool.html
✓	✓	http://unfccc.int/files/focus/mitigation/application/pdf/nama_design_guidance_2016.pdf
	✓	https://www.undp.org/content/dam/undp/library/Climate%20and%20Disaster%20Resilience/FINAL_NDC-SDG-9Nov.pdf
	✓	https://www.cmcc.it/models/ices-intertemporal-computable-equilibrium-system
✓		http://localizingthesdgs.org/library/view/168; https://k-learn.adb.org/system/files/materials/2016/09/201609-discussion-localizing-sustainable-development-goals-subnational-level.pdf
✓	✓	https://www.desinventar.net/whatisDISendai.html
✓		https://www.millennium-institute.org/isdg
✓	✓	https://climateimpact.undp.org/#!/
		https://www.consideo.com
		https://kumu.io

Annex II – Scope of analysis and user relevance

	TOOL NAME	SCOPE	ANALYTICAL DIRECTION	METHOLOGICAL PARADIGM	
				QUALITATIVE	QUANTITATIVE
Text 1	NDC-SDG Linkages	• all SDGs • NDCs	NDC → SDGs	✓	
Text 2	SDG Climate Action Nexus tool (SCAN-tool)	• SDG 1–12; 14–16 • NDCs	Climate action → SDGs	✓	
Text 3	NDC Footprints	• all SDGs • NDCs	NDC → SDGs	✓	
Text 4	SDG Interlinkages Analysis & Visualisation (V2.0)	• all SDGs	SDGs ↔ SDGs	✓	✓
Text 5	NDC-SDG Connections	• all SDGs • NDCs	SDGs ← NDC	✓	
Text 6	A Guide to SDG Interactions: From Science to Implementation	• SDG 2, 3, 7, 14	SDGs ↔ SDGs	✓	
Text 7	Biodiversity and the 2030 Agenda for Sustainable Development – Technical Note	• all SDGs • AICHI	SDGs ↔ AICHI	✓	
Text 8	Biodiversity Indicators Partnership (BIP) Dashboard	• SDG 1, 2, 4, 6, 8, 10–17 • AICHI	SDGs ↔ AICHI	✓	
Text 9	Linking the SDGs with the New Urban Agenda	• all SDGs • NUA	SDGs ↔ NUA	✓	
Guide 1	NAP-SDG iFrame	• SDG 2, 3, 6, 7, 9, 13–15 • NAPAS / NAP • DRR / SENDAI	SDGs → NAP	✓	
Guide 2	Sustainable Development Guidance	• all SDGs • NDCs	SDGs → NDC	✓	✓
Guide 3	SDG Accelerator and Bottleneck Assessment Tool (ABA)	• all SDGs	Sectoral policies → SDGs	✓	✓
Guide 4	Rapid Integration Assessment (RIA)	• all SDGs	SDGs → Sectoral policies	✓	
Guide 5	E-Handbook on Sustainable Development Goals	• all SDGs	SDGs		✓
Guide 6	NAMA Sustainable Development Evaluation Tool	• all SDGs • NAMA	SDGs ↔ NAMA	✓	✓
Guide 7	Guidance for NAMA Design in the context of NDCs: A Tool To Realize GHG Mitigation Under NDCs	• all SDGs • NDCs • NAMA	NDC → NAMA	✓	
Guide 8	Mainstreaming, Acceleration, Policy Support (MAPS) Practical Guidance: Aligning NDCs and SDGs	• all SDGs • NDCs	SDGs → NDCs	✓	
Model 1	ICES (Inter-temporal Computable Equilibrium System)	• all SDGs	SDGs	✓	✓
Model 2	SDG Local and Urban Governance Dashboard (LOGOD)	• all SDGs	SDGs → Local Level	✓	✓
Model 3	DesInventar (Disaster Information Management System) Sendai	• SDG 1, 11, 13 • DRR / SENDAI	SENDAI → SDGs	✓	✓
Model 4	Integrated Sustainable Development Goals (iSDGs) Model	• all SDGs	Sectoral policies → SDGs	✓	✓
Model 5	UNDP Climate Action Impact (CLIP) Tool	• all SDGs • NDCs	SDGs ↔ NDC	✓	✓
Visual 1	iMODELER		N.A.	✓	✓
Visual 2	Kumu		N.A.	✓	✓

| OPEN SOURCE | | RELEVANCE FOR USERS | | | | | |
| YES | NO | MAIN TARGET GROUP | | TARGETED LEVEL | | | |
		POLICY-MAKER	PRIVATE SECTOR	GLOBAL	REGIONAL	NATIONAL	LOCAL
	✓	✓	✓			✓	
✓		✓				✓	
✓		✓			✓	✓	
✓		✓				✓	
✓		✓		✓	✓	✓	
✓		✓		✓	✓	✓	✓
✓		✓	✓			✓	
✓		✓	✓	✓		✓	
✓		✓		✓	✓	✓	✓
✓		✓				✓	
✓		✓	✓		✓	✓	
✓		✓				✓	
✓		✓				✓	
✓		(Government statisticians)				✓	
✓		✓				✓	
✓		✓				✓	
✓		✓				✓	✓
	✓	✓		✓	✓	✓	✓
	✓	✓	✓				✓
✓		✓			✓	✓	✓
	✓	✓				✓	✓
✓		✓	✓			✓	✓
	✓	✓	✓	✓	✓	✓	✓
	✓	✓	✓	✓	✓	✓	✓

Abbreviations

ABA	SDG Accelerator and Bottleneck Assessment Tool
BIP	Biodiversity Indicators Partnership
BMU	Federal Ministry for the Environment, Nature Conservation and Nuclear Safety
BMZ	Federal Ministry for Economic Cooperation and Development
CLIP	Climate Action Impact
DesInventar	Disaster Information Management System
GHG	Greenhouse gas
HLPF	High-Level Political Forum on Sustainable Development
ICES	Inter-temporal Computable Equilibrium System
IKI	International Climate Initiative
iSDGs	Integrated Sustainable Development Goals
LOGOD	Local and Urban Governance Dashboard
LULUCF	Land-use change and forestry
MAPS	Mainstreaming, Acceleration, Policy Support
MEAs	Multilateral environmental agreements
NAMAs	Nationally Appropriate Mitigation Actions
NAPs	National Adaptation Plans
NDCs	Nationally Determined Contributions
RIA	Rapid Integration Assessment
SCAN-tool	SDG Climate Action Nexus tool
SDG-RI	Global Project for Support on SDG Review and Implementation Processes
SDGs	Sustainable Development Goals
V2.0	SDG Interlinkages Analysis & Visualisation