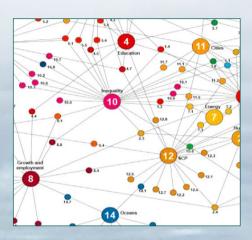
The interactivity of the UN Sustainable Development Goals: integration purpose, process and tools







Sally Ross, 2021

This paper forms part of a programme supported by the Scottish Universities Insight Institute:

The centrality of 'folk, work and place' in the UN SDGs: learning with Falkland Estate towards Scotland's Land Use Strategy

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Executive summary

The UN Sustainable Development Goals (SDGs) were agreed at the United Nations General Assembly in 2015 after wide consultation. They offer an aspiration and strategy to support the transformative agenda to sustainability by 2030. They are universal, seeking action by all sectors across all scales. Seventeen SDGs and their associated 169 targets represent the scope of the challenge ahead. It is agreed that they represent a welcome holistic perspective on sustainable development and that systems thinking is required. However, there is confusion over practical routes by which SDG integration can be achieved.

The briefing paper is written as part of the project "The centrality of 'folk, place and work' in the UN SDGs: learning with Falkland Estate towards Scotland's Land Use Strategy", funded by the Scottish Universities Insight Institute (SUII) under its call for proposals, "Linking the United Nations Sustainable Development Goals to accelerate progress". In this project, a partnership between Universities, Falkland Estate and the Land Commission has engaged key stakeholders to explore scenarios for transforming land use and potential governance

models, bringing together international experience, policy makers, community members and academics.

The briefing paper was proposed in order to:

- 1. Explore theoretical frameworks to interpret the holistic vision of the SDGs
- 2. Describe existing practical tools that can be used to map and monitor progress against the SDGs by sectors, communities, businesses or enterprises
- 3. Inform the choice of a practical mapping tool for this project.
- 4. Provide a resource for the programmes in SUII and for Scotland's SDG Network

The SDGs represent a framework for systems thinking, but integrative approaches have been little conceptualised. There is concern that some action towards specific SDGs may have deleterious effects on other SDGs, at different scales or on minority groups. An integrative approach is thus required that includes careful monitoring and evaluation. Some progress has

been made towards the SDGs at global scales and a review in Scotland demonstrated how Scotland had mapped the SDGs within the National Performance Framework to facilitate coordinated action.

In this paper, we propose a seven step SDG integration cycle for institutions, organisations and groups to adopt. This cycle is preceded by a Stakeholder analysis and engagement, then:

- 1) Agree organisational values and purpose
- 2) Understand the SDGs
- 3) Map activities to SDGs
- 4) Identify interactions
- 5) Identify targets, indicators and milestones
- 6) Integrate SDGs into organisation
- 7) Review progress, monitor, learn and adapt.

These steps support a wider reflective learning cycle that can also link to other strategic and monitoring activities.

Many tools and approaches have now been developed to facilitate integration of the SDGs. This paper presents a diverse selection of 17 tools to indicate the kind of resources available. Each tool is presented with a summary of its function, stage of the SDG integration cycle, possible scale or context of use and a link to the tool itself. It was concluded that there is no single ideal tool and that each organisation or institution should review the tools and adopt complete or partial tools as relevant to their goals and practices. SDG integration will significantly support the capacities of organisations to pursue their own purpose in a responsible and effective manner whilst contributing to a more sustainable future.

Purpose of this briefing paper

This briefing paper is written as part of the project "The centrality of 'folk, place and work' in the UN SDGs: learning with Falkland Estate towards Scotland's Land Use Strategy". The project is funded by the Scottish Universities Insight Institute (SUII) under its call for proposals, "Linking the United Nations Global Goals to accelerate progress", part of a series of calls for proposals related to accelerating progress towards the UN's Global Goals (SDGs).

The UN SDGs offer a framework to support systems thinking around land use and the practical attainment of multiple goals. In this project, a partnership between Universities, Falkland Estate and the Land Commission engaged key stakeholders to explore scenarios for transforming land use and potential governance models, bringing together international experience, policy makers, community members and academics.

The briefing paper was proposed in order to:

- 1. Explore theoretical frameworks to interpret the holistic vision of the SDGs
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The paper tackles the above in the following sections:

- Introduction
 - Progress to date
 - Where to from here?
- The SDG Integration cycle
- Tools
- Bibliography and References

Introduction

The UN Sustainable Development Goals (SDGs) were agreed by world leaders at the United Nations General Assembly in 2015 to build on the expiring Millennium Development Goals (MDGs) (UN 2015). While the latter stimulated a global campaign to end poverty in developing countries (2020 – 2015), the SDGs apply to all UN member states and espouse a fully integrated approach, with equal emphasis being placed on the economic, social, and environmental dimensions of sustainable development. The SDGs are an urgent and collective call to action to create a better world by 2030 and end poverty, eradicate inequality and protect the planet, leaving no-one behind. They are universal; unlike the MDGs, they apply to all nation states, not only developing countries, and they are the responsibility of all sectors (public, private and Third) and areas (including agriculture, energy, manufacturing and finance) and at all scales (individual, community, region, national and global) (East and White, 2016). The 2030 Agenda comprises 17 SDGs with 169 targets and 231 indicators, representing a holistic but complex view of what a sustainable world could look like in 2030 (Weitz. Carlson and Trimmer, 2019). The 17 goals and their targets

were designed, signed and declared as "interconnected and indivisible" (UN, 2015). In practice their complexity offers challenges and trade-offs, and synergies and unintended consequences of one on another need to be considered (Scharlemann et al., 2020). Whilst the SDGs included engagement with 7 million people in their development and are considered a positive progression from the MDGs (East and White, 2016), they are not perfect. It has been argued that they maintain the status guo in terms of the dominance of capitalist, neoliberal thinking, that they promote western over indigenous ways of knowing and that they can actually harm local communities by preferencing large scale infrastructure projects (East and White, 2016; Makwana, 2016; Hope, 2020). However, they offer the best compromise and are becoming a common language and strategy to enact the aspirations for a better future of the UN transformative agenda for 2030. In this paper, we retain a critical perspective, but largely assume that they are useful in driving international, cross sectoral, integrated action for sustainable development. We thus talk of 'progress' towards the SDGs whilst recognizing some of the ambiguity and complexity underlying this process.

Scotland clearly defined the kind of country it wanted to be in 2007 when it developed the first version of its National Performance Framework (NPF) which "set out one purpose - creating a more successful country, with opportunities for all of Scotland to flourish, through increasing sustainable economic growth" (Nicola Sturgeon, 2018, para 3). It was then one of the first nations to sign up to the SDGs in July 2015 and since then it has updated its NPF (in 2018) and many groups with an interest in sustainable development have been engaging with national and local government to explore ways of achieving the goals. The SDG Network Scotland aims to support debate around the SDGs and their implementation. It hosts a website (https://globalgoals.scot/sdg-network-scotland/) which serves as Scotland's National Platform for the SDGs, providing an online forum to encourage knowledge exchange, and share reports and diverse relevant resources. Formed in 2017 to assist in driving a Scotland-wide response to the SDGs, the SDG Network Scotland is an open coalition with over 600 members from civil society, academia, schools, public sector bodies and businesses with a mission "to make Scotland a more sustainable nation by facilitating collaborative action towards the SDGs" (Scotland's SDG Network, 2019). The Network works with the Scottish Government and the Convention of Scottish

Local Authorities (COSLA) which is the national association of Scottish councils and is the voice of local government in Scotland. As well as agreeing a common strategic approach for the Goals, COSLA works with the Scottish Government on the meaningful localisation of the Goals by councils and communities.

In 2013, Scotland CAN DO was launched. It laid out Scotland's plans to become a world leading entrepreneurial and innovative nation and specified that "enterprise and growth must be accessible to all and for the benefit of all" (Scottish Government, 2013, p1). Building on this, and aiming to catalyse a fundamental shift in Scotland's approach to business, in 2018 Nicola Sturgeon launched the Scotland CAN B initiative, a partnership between the Scottish Government and B-Lab, a non-profit with 15 years of experience working with business to ensure that it is a force for good (Can B Scotland, 2021). Scotland CAN B draws on B-Lab's experience and aims to engage all Scottish businesses to help them achieve rigorous standards of social and environmental accountability by better understanding, measuring and managing their impact using B-Lab's B Impact Assessment and SDG Action Manager tools.

Progress to date

Overall, the world has been making progress towards achieving the SDGs since their adoption in 2015. National reviews of progress are made regularly, enabling regional, national and global assessments of impact. Rates of progress differ widely across the globe, with Asian countries having made the most progress and the OECD countries, the least progress (Figure 1) (Sachs et al., 2020).

Sweden, Denmark and Finland are at the top of the SDG index (SDG index scores of 84.7, 84.6 and 83.8 respectively), whilst the UK is currently ranked 13 with an SDG index score of 79.8¹, the US is ranked 31 and China, 48.

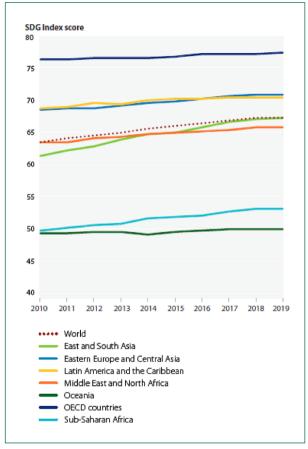


Figure 1: Progress on the SDG Index by regions (2010–2019). Source: Sachs et al., 2020

¹ The SDG Index averages performance across indicators for each goal to give an overall picture of a country's SDG progress. It is complemented by indicator and goal dashboards presenting information on each SDG indicator and showing strengths and weaknesses for each country (Sachs et al., 2020).

Progress is also mixed at all scales and across SDGs (HM Government, 2019; Sachs et al, 2020; Scottish Government,2020; UKSSD, 2018; UKSSD, 2020), with some positive achievements but considerable challenges. The UK Stakeholders for Sustainable Development (UKSSD) found that out of the 143 relevant SDG targets, the UK is performing well on 24% (green), whilst for 57% there are gaps in policy coverage or there is inadequate performance (amber), and for 15% there is little or no policy in place to address the target or the performance is poor (red) (Figure2) (UKSSD, 2020; UKSSD, 2018). In terms of UK performance at the SDG level, Figure 3 indicates major challenges for 5 SDGs (SDG 2, 12,13, 15 and 17), significant challenges for 5 SDGs (SDG 5, 7, 8, 10 and 14), and some challenges for 7 SDGs (SDG 1, 3, 4, 6, 9, 11 and 16) (Sachs et al., 2020). None of the SDGs have been achieved in the UK. This said, four SDGs are on track and positive progress is being made on a further ten SDGs, with only one (SDG 10) decreasing and one stagnating (SDG 2).

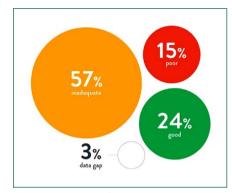
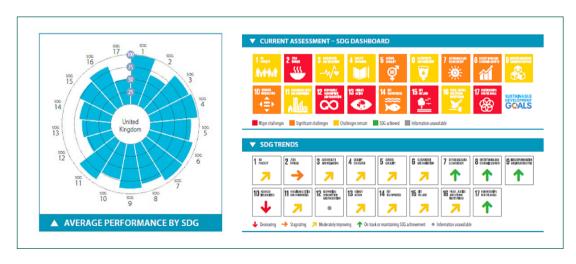


Figure 2: UK performance against the 143 relevant SDG targets.

Source: ukssd.co.uk

Figure 3: Dashboards indicating the UK's Performance in 2020.



Along with the other devolved administrations in the UK, Scotland reports progress towards achieving the SDGs to the UN as part of the UK. The UK published its first voluntary national review in 2019 and in parallel to this Scotland conducted its own full national review in order to fully assess its progress in Scotland, both in terms of the National Performance Framework (NPF) and the SDGs (Scottish Government, 2020). In addition to Scotland's National Review, in 2019 the University of the West of Scotland and Oxfam Scotland published an independent snapshot review of Scotland's progress towards the SDGs captured from assessments made by a wide range of civil society actors (Pautz et al, 2019). These assessments indicated that while "there is clear policy and political commitment on all of the goals in Scotland, more needs to be done in order to meet the 2030 targets ". Also, "it is not just up to the Scottish and UK Governments to deliver on the Goals - what is needed is coordinated action also from business.

the third sector and citizens to deliver progress" (Pautz et al., 2019, p9). In addition, Long et al. (2019) produced a discussion paper assessing the alignment between the NPF and the SDGs and analysing Scotland's performance against the SDGs, looking at data availability, performance and the delivery landscape. They concluded that Scotland's performance across the SDG targets is broadly comparable to the UK as a whole, although there are some more positive areas, and some less positive areas (Figure 4). They also concluded that, at the indicator level the NPF and SDGs are aligned, but not very closely, with only 19% of the National Outcome indicators having a 'closely aligned' SDG indicator and 36% of the NPF indicators having 'relevant' SDG indicators. Therefore, they conclude that "assuming that 'what gets measured, gets done', there might be scope to consider the merits and drawbacks of moving towards closer alignment with the SDGs in some of these areas" (Long et al., 2019, p5).

Targets met (represent the Positive progress - moving Not on track development agenda) towards the SDG ambition & often Relative and multidimensional performing better than the rest of Population below the poverty the UK international (\$1.90/day) poverty Adequate housing •Mortality from non- Maternal and neonatal mortality Violence against women and girls communicable disease Wasting and stunting in children Healthy diets and obesity Water stress & water quality Access to clean water and •Levels of women in government Energy share from renewables sanitation (static) Youth not in education and Environmental protection training (relatively stable e.g. in terms of Mortality from air pollution ecosystem health and fish stocks) Recycling rates Levels of violence Forest management Road safety

Figure 4: Scotland's performance against the SDGs – targets met, showing progress and not on track.

Within and across nation states, different sectors, organisations and companies have been grappling with the SDGs in different ways and to differing extents (e.g. DNV-GL, 2020; PwC, 2019; GEN, 2021). For example:

- The private sector has been recognizing the importance of some sustainability agendas. The UN Global Compact (UNGC) is an agreement to which the private sector can sign up to certain forms of corporate social responsibility and environmental sustainability. It currently has 10,000 corporate members. In a member survey, UNGC found that 84% of 615 respondents report taking specific action to support the global goals, whilst only 46% are embedding the SDGs into their core business; 37% are designing business models that contribute to the SDGs; 39% have targets they believe are sufficiently ambitious, science-based or align with societal needs and only 15% have targets that have been approved by the Science Based Targets Initiative (DNV-GL, 2020).
- In their 2019 analysis of over 100 private sector company reports, PwC found that 72% of companies mentioned the SDGs in their reporting, 25% included the SDGs in their published business strategy, 21% of CEO statements included reference to the SDGs, only 14% of companies mentioned specific SDG targets and only 1% measured their performance against SDG targets (PwC, 2019).

Although both UNGC and PwC's analysis indicates general acknowledgement of the importance of the goals by businesses it shows that more practical action is certainly needed if the SDGs are to be achieved by 2030.

Some of the Third sector has embraced the SDGs as a welcome framework for joined up thinking that combines social justice and environmental integrity. One of the challenges has been to translate the UN terminology into language that is meaningful to communities. An example of an organisation that is successfully doing this is the Global Ecovillage Network (GEN). GEN comprises 6090 communities across 114 countries and "envisions a world" of empowered citizens and communities, designing and implementing their own pathways to a regenerative future, and building bridges of hope and international solidarity" (GEN, 2021). When considering the contributions of GEN's members to the SDGs one sees what can be achieved with a sustainability focus. A 2017 investigation by GEN found out how ecovillages were contributing to the SDGs by looking at the impact of 30 of these communities across five continents (ecovillage.org, 2021). In terms of ecological impact and climate change adaptation, they found that 97% of these ecovillages are actively working to restore degraded ecosystems (SDG 15), 90% sequester carbon in soil and/or biomass (SDG 13) and 97% work to restore or replenish water sources and cycles (SDG 6). In terms of social impacts, all ecovillages provide education

in sustainability-related fields (SDG 4), women occupy at least 40% of decision-making roles in 90% of cases (SDG 5), all nurture local traditions relevant to sustainable methods of building and food production (SDG 11 on sustainable communities), 90% reuse or recycle over half their waste and 85% compost all food waste (SDG 12 on responsible production and consumption), 80% have established conflict resolution procedures and all provide training in decision-making and mutual empowerment (SDG 16 on responsible institutions, peace and justice), and 95% participate in campaigns to protect the rights of humans and nature (SDG 17 on partnership).

GEN is developing a tool through which communities can explore their own current and future action preferences using local scale actions and targets that align with the SDGs. This impact assessment tool will thus demonstrate how community groups are often already aligned with SDGs, but will also provide a participatory mechanism by which additional communities can plan for a better future.

It is clear that globally and within all sectors awareness of and engagement with the SDGs are varied and although this is changing for the better, further work is needed in particular to engage civil society, businesses, local partners and communities (HM Government, 2019).

Where to from here?

The complexity, interconnected and inter-dependent nature of the 17 SDGs means that to deliver on the 2030 agenda, action is required from all stakeholders: governments at national, regional and local level, international agencies, civil society, businesses and citizens (UKSSD, 2018). Thus, the SDGs are a shared responsibility and they need to be addressed in a systematic, holistic way, not as cherry-picked stand-alone components. Policy coherent development and systems approaches (eg. Siitonen, 2016; Scotland's International Development Alliance, 2020) need to be applied and diverse, relevant stakeholders consulted. Scale also needs to be taken into consideration and recognition given to the fact that choices and actions may have repercussions for people and communities locally, nationally or internationally both now and in the future. In this way the synergies between SDGs can be identified and exploited and the trade-offs mitigated against.

In practice, it is a challenge to consider how to address the SDGs as a system, rather than cherry picking particular SDGs in specific contexts. Some organisations, special interest groups, and governments have mapped the SDGs against their work, enabling them to more clearly see how to meet their obligations to the universal SDG agenda within their own context (Sachs et al., 2019) and to report their progress towards the SDGs. There are also several initiatives enabling organisations to conduct self-assessments of their contributions to the SDGs and several tools that encourage consideration of interactions between goals and targets. However, systematically analysing interactions between all of the SDGs and their targets remains complex, is still in the domain of the researchers (Weitz et al., 2018), and is largely restricted to application by the UN, OECD and some national governments who have the capacity to work with complex systems and network analysis.

As context varies widely depending on the type and purpose of organisation, scale, their governing principles, location and other factors, even if relevant tools or approaches are available, they really need to be customised to a greater or lesser extent to suit each specific context and very rarely is a single tool likely to fulfil all of an organisation's SDG integration needs.

The SDG integration cycle

Regardless of the type of organisation or community, or the type of tools used, several steps need to be followed when working towards integration of the SDGs. For the purpose of this brief, we have broken down the process of SDG integration into a cycle of seven steps, with stakeholder engagement being an important aspect of all steps (Figure 5). In spite of being presented as a series of consecutive steps, this is a non-linear, iterative process.

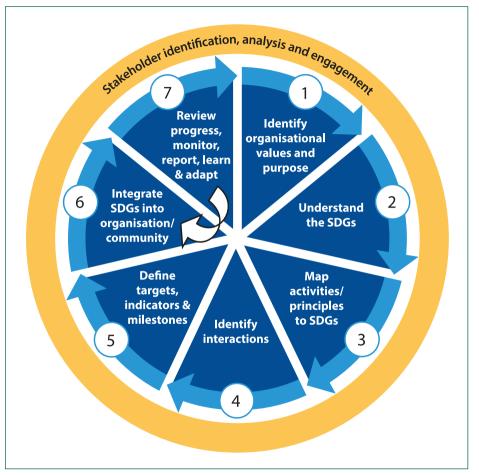


Figure 5: SDG integration cycle.

Stakeholder identification, analysis and engagement

Regularly engaging with relevant stakeholders, both those that are directly or indirectly affected by an activity or policy and those who have the power to influence it, is key to gaining a deeper and more nuanced understanding of the issues at hand, to developing a sense of ownership and buy-in and to tapping collective capacity. Thus the reasons to engage vary; one might wish to change behaviour by providing information and developing knowledge (for example consumers given more information on green technologies might be encouraged to adopt renewable energy solutions), or one might want to develop new solutions in which stakeholders develop the ideas and take them forward (for example a community might engage its members to come up with ideas for how they can help deliver the SDGs)(UNESCAP, 2018).

The 2030 Agenda for Sustainable Development recognises that inclusive participation and effective stakeholder engagement is key to the successful implementation of the Sustainable Development Goals (SDGs)(UN 2015). The Agenda is a call for all stakeholders in all countries to act to implement the SDGs, through inclusive, collaborative and transformative means, leaving no-one behind. It recognises that when stakeholders are effectively engaged, especially in ways in which they have higher levels of influence in the decision or project, decisions are more likely to be sustainable

from economic social and environmental perspectives and the potential for transformative outcomes is higher.

The process of engaging stakeholders essentially comprises three key steps:

1. Stakeholder identification

Generation of a list of all relevant stakeholders by asking oneself/one's team a series of questions such as:

- Who is affected (directly or indirectly) positively or negatively by the project/ issue/ activity?
- Who has the power to make it succeed (or fail)?
- Who makes the decisions?
- Who might support or prevent success?
- · Who are the suppliers?
- Who are the end users/ customers?
- Who are the employees?
- What professional organisations might have influence/interest?
- · Who has influence over other stakeholders?
- Who could help solve potential problems with the project?
- Who is in charge of assigning or procuring resources or facilities?
- Who has specialist skills which are crucial to the project?

2. Stakeholder analysis

The systematic examination and evaluation of the relevant stakeholders to group them according to their levels of participation, interest and influence in a project, initiative or organisation in order to determine how best to engage (involve and communicate) with each stakeholder group effectively. A version of the Stakeholder Analysis Matrix (Tool 1) is typically used to facilitate this process.

3. Stakeholder engagement

The process by which an organisation engages with its stakeholders. There are many different ways of doing this and many different points in a process at which one will need to do so. The most appropriate methods will depend on the aims of the engagement, who one is targeting, the time available, locations of the relevant people, environment in which people will feel most comfortable and the most appropriate type of language and participatory process. Examples of engagement techniques include workshops, focus group discussions, surveys, interviews, mailshots, websites, and podcasts. In reality a variety of methods will need to be employed tailored to the context and people involved. A tool such as the Stakeholder Engagement Methods Matrix (Tool 2) can be used to help select the most appropriate methods.

Information on stakeholder identification, analysis and engagement is widely available (e.g. MacDonald, 2016; Sustainable Development Goals Helpdesk, 2020) with identification of priority stakeholder engagement in a time of financial austerity (White et al., 2018).

1. Identify organisational values and purpose

Before engaging with the SDGs, it is important that an organisation, initiative, institution or company consider what its own core values and purpose are and ensure a common understanding by all involved. The SDGs should support both value-based action and enhance functionality. The Scottish NPF (Tool 9), GEN Map of Regeneration (Tool 8), SDG Compass (Tool 17) and PwC tools (PwC, 2016; PwC, 2019) can be referred to for inspiration.

2. Understand The SDGs

As a second step in the alignment of organisational principles to the SDGs, it is essential that key stakeholders are familiarised with the SDGs, their associated targets, indicators and possible interactions so that full understanding of the opportunities and responsibilities that they offer can be gained. This will include internal discussion and engagement with external stakeholders.

A huge number of tools exist to provide information on the SDGs and the associated targets and indicators through various means, with the discussion usually further enabling elaboration of key values and principles. A selection of these tools is presented in this brief.

3. Map activities/principles to the SDGs

Mapping processes will differ with the scale and purpose of the organisation, initiative, institution or company. Larger entities will conduct an equal and in-depth mapping across all SDGs. Smaller entities may map broadly across all SDGs but then focus on particular priority SDGs. In order to avoid selective cherry picking and significant negative interactions between SDGs, it is essential for any organisation to start by mapping all of their current and planned future activities to all 17 SDGs in order to identify key current and potential positive and negative impacts on the SDGs and thus initial focal points for intervention. Following this assessment, consideration can be given to interactions, opportunities, risks, and knowledge gaps that need addressing.

There are several excellent examples where entities have undertaken this mapping, at different scales and for different purposes. Scotland has conducted this exercise, mapping its National Performance Framework outcomes to the SDGs as described above for the function of government. GEN has created a Map of Regeneration

to support communities to identify areas of strength and lack of activity against 32 principles within a holistic framing. The SDG Compass website contains an inventory of business indicators mapped to the SDGs and their targets. The Global Goals Mapping tool links the activity and programmes of NGOs to the SDGs. Any organisation or other entity seeking to map against the SDGs broadly or in detail can explore these or other tools. However, in order to be meaningful, to enable detailed monitoring and evaluation of indicators and to reinforce the values and purpose of the entity, a customised mapping process is required, using some form of data collection and analysis.

4. Identify interactions

Although the 2030 agenda stresses the integrated, indivisible and interlinked nature of the SDGs, interactions and interdependencies are not generally specified in the descriptions of the goals or their targets (ICSU, 2017) and are largely context-specific. Although analysis of interactions can become complex, it is essential to identify and consider key interactions in order to support more coherent decision-making and ensure a holistic approach to implementation within and across organisations, sectors or departments. A situation where positive impact on one SDG is off-set by a significant negative impact on another can thus be avoided. Identification of interlinked goals and targets also allows the identification of leverage points with potential for significant change across multiple

goals or targets (ADB & UNEP, 2019; Scharlemann et al., 2020). For example, David Le Blanc, UN Department for Economic and Social Affairs (UN DESA), has shown that SDG 12 (Responsible consumption and production), SDG 10 (Reduced inequalities), SDG 1 (No poverty), and SDG 8 (Decent work and economic growth) all have links with 10 or more other goals, indicating that creating a positive or negative impact in one of these will often have a similar impact across many others (PwC, 2016). Scharlemann et al. (2020) cite as a specific example the phasing out of solid fuel cooking stoves which would reduce global warming by 0.08°C by 2050 (SDG 13) and also reduce premature deaths due to local pollution by 260,000 per year (SDG 3).

There have been some efforts to identify and measure SDG interactions (e.g. Nilsson, Griggs and Visbeck, 2016); the interlinkages between a subset of the SDGs in the contexts in which they typically occur have been analysed (International Council for Science, 2017); researchers have developed a tool to systematically score interactions for a specific context (Weitz, Carlson and Trimmer, 2019) and network analysis techniques have been applied to identify leverage points (Weitz et al., 2018). However, there remains much more to be done to enhance detailed knowledge around interlinkages to all 17 SDGs and their targets in multiple contexts, and to make systematic analysis techniques easily accessible to a range of organisations (Breuer, Janetschek, and Malerba 2019). One attempt to facilitate this is PwC's business guide to navigating the

SDGs which for each SDG provides and explains the "key links to other SDGs" in a way that is relevant to business (PwC, 2016).

An in-depth review of frameworks that systematically conceptualise the SDGs, their interlinkages and independencies can be found in Breuer, Janetschek, and Malerba (2019) which provides a detailed overview of the existing frameworks, discusses the advantages and limitations of each, and formulates ideas for a roadmap going forward.

For the purpose of this brief, two tools are presented:

- The SDG Interactions Framework (Tool 12) developed by Nilsson, Griggs and Visbeck (2016) presents a commonly used approach to scoring interactions between SDGs and their targets and the Guide to SDG Interactions (ICSU, 2017) introduces the framework, and examines the interactions between four SDGs (2, 3, 7 and 14) and their targets. These can be used by organisations to inform their discussion around interactions between these SDGs in their own context.
- The SDG Synergies Approach (Tool 13) shows how interaction scoring can be used to generate a matrix of interactions between an organisation's priority SDG targets, thus identifying leverage points.

5. Define targets, indicators and milestones

Once activities have been mapped to the SDGs and interactions understood, the selecting and setting of specific targets, indicators and milestones to capture the ambitions of an organisation will help drive achievement and enable change to be measured and progress reviewed.

Firstly, a list of SDG-linked targets needs to be finalised, then associated indicators selected, ambitions or milestones set and baselines established. This is best illustrated by way of example. As a result of its mapping exercise, a land management area such as Falkland Estate in Fife, is likely to identify SDG 15 as one on which it can have a significant impact from the start:

 SDG 15 – Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.

SDG 15 has 12 targets, of which an estate with a mix of forestry and farming operations might identify target 15.1 as one of its priority targets:

 Target 15.1 – By 2030, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements. Target 15.1 has two indicators specified and an estate may select 15.1.1 as the most relevant given their plans to increase the area of the estate under forest:

 Indicator 15.1.1 – Forest area as a proportion of total land area.

The team may then refer to the GEN Map of Regeneration for additional ideas that might fall under this area and give due consideration to whether for example the ecological and carbon footprints of the estate are important to them and if so whether it is something that its practical for them to measure. If so, they could add a further indicator or indicators to capture their progress on this under SDG 15.

With a list of targets and indicators finalised, the team would then need to work out what the current situation, or baseline, is for each indicator and then, referring to Scottish and SDG 2030 aspirations, set ambitious but realistic aims. For example, Scotland's ambition is to increase woodland cover in the country from its current 18% to 21% by 2032.

6. Integrate SDGs into organisation/community

If we are to make the necessary progress towards the achieving the SDGs, then sustainability and the SDGs need to become core to the way in which we think about, plan and live our lives. Much has been written about what is needed to effectively integrate the SDGs into business (e.g.

PwC, 2016; SDG Compass Guide (Tool 17)) but the same principles apply across society and recommendations can be summarised as follows:

- Generate a shared understanding of how progress towards sustainability goals creates value for each of us i.e. of how they are relevant to each of us in our country, organisation, business, community etc. and about what will happen if we ignore sustainability
- Leaders to communicate and show clear buy-in to the goals whilst retaining a critical perspective for context and impacts
- Embed SDGs in all aspects of an organisation or community. Ensure they are captured in the vision, purpose, policies, KPIs etc; are part of all decisionmaking processes; and core to the culture, values and relationships.
- Integrate sustainability goals into incentives such as remuneration, project funding, or budget allocation
- Use the SDGs to generate innovative, positive ideas rather than seeing them as restrictive and limiting
- **Collaborate** widely with diverse entities to accelerate positive change and avoid duplication.

7. Review progress, monitor, report, learn and adapt

Without stopping periodically to review progress and reflect it is impossible to know how effective interventions are, what difference they are making, what more needs to be done, what has been learned, to share learning, what to report, what to celebrate, or whether adjustment and adaptation is needed going forward.

Progress is commonly captured in an excel grid or logical framework (logframe) which was originally developed as a planning tool for military purposes but has since become widely used in the development sector (Garbutt and Simister, 2017). It is a matrix which describes a project's goal or impact and the activities, inputs and results anticipated to be necessary to achieve the goal. The results are laid out hierarchically and read logically from the bottom of the matrix to the top:

- Goal longer term impact that a project is aiming for
 - Outcomes purposes of the project results that the outputs aim to deliver
 - Outputs products or services directly resulting from an intervention
 - · Activities needed to deliver the outputs
 - Inputs or resources required to undertake the activities

For each of these, the horizontal axis of the matrix specifies objectively verifiable, SMART indicators; means of verification; and risks/assumptions. Additional columns may also be added to capture baseline data, milestones, and other information to aid with progress review. Considerable information on logframes and other commonly used monitoring tools is freely available online (e.g. intrac.org, 2021; tools4dev.org, 2021; thetoolkit.me, 2021).

Some assessment tools have been developed to help organisations measure progress against the SDGs where there is alignment of principles and activities. The SDG Action Manager (Tool 16) developed by B-Lab and the UN Global Compact is aimed at businesses but can be used more broadly; and the Global Ecovillage Network Impact Assessment (Tool 15) developed by GEN is aimed at ecovillages and those sharing their philosophy.

Tools

Since the declaration of the 2030 Agenda many tools and approaches have been developed with a view to facilitating integration of the SDGs. This brief by no means tackles all or even most of them but instead aims to present a small, diverse selection to give organisations and communities an idea of some of the useful resources available to them in their quest to achieve SDG integration.

Seventeen tools are presented according to their main function following the order of the SDG engagement steps

outlined above. Many tools do, however, serve additional functions as summarised in Table 1. The tools provided are varied and include information portals, methodology/process tools, approaches, assessment templates, toolkits, and training.

For each tool, the tool name, a brief description, the developer, and access details are provided. Hyperlinks to the tool itself are also included and references for sources of further information, where relevant.

dentificate and purpose **Table 1**: Matrix of tools by SDG integration function Tatoki indicator of the control of t Understand SDE's Interactions Integration Mapping Utility 100) Stakeholder analysis matrix ΑII Stakeholder engagement ΑII methods matrix Any organisation or group with Theory-U sufficient time ΑII **UN SDG Knowledge Hub T5 FcoliseWiki** Communities • Primarily Government, but also others that are looking for useful information **Land Portal T6** relevant to the land-related SDGs Gaia Education: SDG Flashcards. Communities and Government SDG Project Canvas, primarily SDG Multipliers Handbook and Training for Multipliers Workshop Communities, but also applicable to groups, projects, organisations, and Global Ecovillage Map of even countries who want to work together Regeneration towards regenerating social and natural environments to bring about positive transformation using GEN principles Government primarily, and Scottish National Scottish communities and Performance Framework businesses secondarily

√00 ¹	Function	Jrility.	stakel	ldertify (noanisation Joanisation Judes	happing Mappi	in ^{to} Interes	tions Taioletsi	ndicator of	Review Drods
T10	SDG Impact Assessment Tool	Research and educational institutions, companies, entrepreneurs, civic organisations, and public agencies			•	•	•			
T11	Global Goals Mapping Tool	Funding agencies				•				
T12	SDG Interactions Framework	Government, researchers, to some extent communities			•		•			
T13	SDG Synergies Approach	Government, researchers, to some extent communities					•			
T14	Scotland Can B Impact Culture & Impact Economy Advisors T								•	
T15	Global Ecovillage Network Impact Assessment	Communities, but also applicable to groups, projects, organisations, and even countries who want to work together towards regenerating social and natural environments to bring about positive transformation using GEN principles				•				•
T16	SDG Action Manager	Businesses, but it can be used by not-for-profit organisations, with sections that are not relevant being ignored			•	•		•		•
T17	SDG Compass	Companies of all sizes but the process the tool outlines can be useful for all		•	•	•	•	•	•	•

T1: Stakeholder Analysis Matrix (Stakeholders)

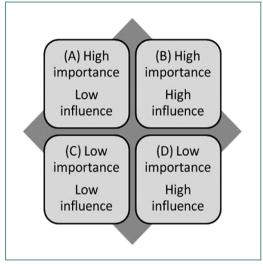
Description

There are many versions of the stakeholder analysis matrix. Regardless of the version its aim is to classify each relevant stakeholder according to two selected criteria such as influence and importance or knowledge and attitude, and on this basis place them into the relevant quadrant of the matrix so enabling the development of a range of engagement strategies for the different types of stakeholders. Morphy, (2021) presents a range of valuable stakeholder mapping and analysis tools on his stakeholder.com website as does the SDG helpdesk (SDG Helpdesk, 2020).

The matrix comprises four quadrants which are generated by considering any of the following pairs of criteria, depending on the context:

- 1. Influence Importance
- 2. Power to affect strategic future Interest in project
- 3. Ability to Impact View of the project
- 4. Level of commitment Importance of their support
- 5. Importance to the project/issue-support for it
- 6. Knowledge Attitude

Applying example 1, generates the illustrated matrix, where importance indicates the priority that needs to be given to satisfying the interests of each stakeholder and influence refers to the power a stakeholder has to facilitate or impede the achievement of an objective either directly or indirectly by persuading or coercing others into making decisions, and following a certain course of action.



Source: Könings, Bovill and Woolner, 2017

The matrix is created by:

- 1. Drawing the four quadrants and naming the axes
- 2. Listing the most important stakeholders on post-it notes for example
- 3. Assessing the importance of the issue under consideration to each stakeholder
- 4. Assessing the influence of each stakeholder on the issue under consideration
- 5. Positioning each stakeholder on the relevant quadrant
- 6. Validating the positioning with participants



Adapted from: Grégoire, 2020

Positioning of the stakeholders in the matrix enables one to understand how to manage communication and consultation with each of them i.e. who needs to be consulted, when, how often and how; and who needs what information, when, and how often and how best to deliver the information. The four categories of stakeholders:

- High Influence/High Importance (Fully engage)
 Key players and need to be engaged regularly and managed closely.
- High Influence/Low Importance (Keep satisfied)
 Keep satisfied by striking a careful balance between keeping them informed, but not overloading them with too much information.
- Low Influence/High Importance (Keep informed)
 Keep adequately informed and consult regarding their area of interest, making sure they don't have any major issues with the project. Can often help with the detail of the project.
- Low Influence/Low Importance (Minimum effort)
 Keep informed with general information, do not
 overload. Monitor in case they become more influential
 with for example a change of role.

(Adapted from: projectmanagementdocs.com, 2021)

Utility

All.

Developer

Various.

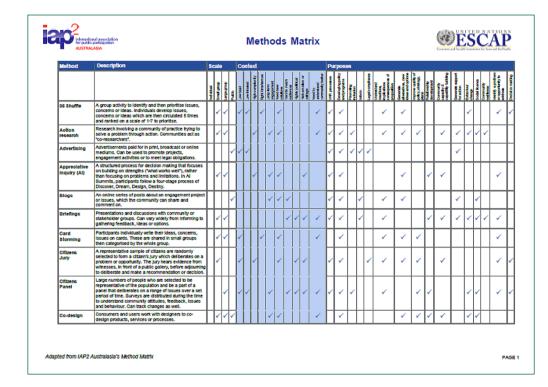
Access

Open source at for example: https://www.stakeholdermap.com/stakeholder-matrix.html

T2: Stakeholder Engagement Methods Matrix (Stakeholders)

Description

The Methods Matrix is a tool designed to help organisations select methods to meet their community engagement needs and is intended to be used by a team to help choose the best set of engagement methods for a particular context. The Policy Project's guide (2020) 'Selecting Methods for Community Engagement' outlines how the matrix should be used.



In brief, there are five steps:

- Identify and highlight the sub-categories within each of the three main selection categories which are most relevant to your context/project. These are arranged across the top of the Matrix:
 - Scale: individual; small group; large group; public.
 - Context: low trust; low interest; high complexity; tight timeframes; need new solutions; hard to reach audiences; highly political; high emotion or outrage; need to understand community better.
 - Purposes: VNR processes; developing policy and programmes; promoting inclusion; inform; legal compliance; understand reactions, implications, consequences of proposition; generate alternatives, new ideas and options; improve quality of policy, strategy, plans; relationship development; community capacity and capability building; generate support for action; behaviour change; social licence; community resilience; identify a problem or opportunity to address; decision making.

- 2. Work your way down the list of 65 methods identifying those that are rated as suitable to all or most of the sub-categories highlighted in step 1. This selection makes up the long list of methods options for your project. Methods are diverse and include polling, briefs, community visioning, conversation cafes, interactive mobile apps, surveys, workshops and world cafes.
- 3. Cut down the long list to create a short list of the most appropriate methods by considering:
 - the likely effectiveness of each method in generating the required output
 - the likely effectiveness of the method in creating the desired set of relationships
 - the preferences and needs of the range of people that will be engaged
 - the capacity and capability of your organisation to facilitate engagement using this method.
- 4. With the short-list finalised, check whether any further methods are needed to ensure the engagement of a more diverse set of perspectives.
- 5. Review and finalise the list of methods using the criteria in step 3.

Utility

All.

Developer

Adapted from International Association for Public Participation (IAP2), Australasia's Methods Matrix by United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP).

Access

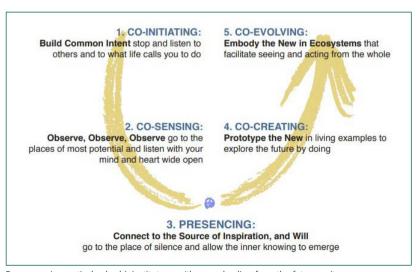
Open source at:

http://sdghelpdesk.unescap.org/knowledge-hub/thematic-area/stakeholder-engagement-and-partnerships

T3: Theory-U (Stakeholders)

Description

Theory-U develops the ability of a group of stakeholders to change the status quo. It is a change framework and set of methodologies founded on the premise that change can only be brought about effectively if the people involved experience a shift in mindset, seeing themselves as part of the system rather than separate from it looking in. It is a five-stage journey which brings together all relevant stakeholders over a period of time to work together through the process to effect change:



- 1. Co-initiating: relevant stakeholders brought together.
- 2. Co-sensing: developing an understanding of the realities of the different stakeholders by walking in their shoes.
- Presencing: bringing together all of the insights from step 2 in order to fully understand the current situation, bottlenecks and potential entry points for transformation.
- 4. Co-creating: testing of ideas generated in step 3 to generate wider stakeholder feedback.
- 5. Co-evolving: further refinement of the ideas tested in stage 4 and scaling up of ideas.

Core to this methodology is the belief that the development of a self-reflective capacity (mindfulness) by stakeholders is essential to enable a shift in their perspective, enabling all to understand their relationship with the system and thus to identify and buy-into the changes that are needed.

Utility

Any organisation or group with sufficient time to invest in and work through the month's long process.

Developer

The Presencing Institute. Founded in 2006 by Otto Scharmer and colleagues of the MIT Sloan School of Management "to create an action research platform at the intersection of science, consciousness, and profound social and organizational change".

Access

Various online learning Programmes (https://www.presencing.org/programs/marketplace), including:

- Two hour Meet Theory-U interactive introduction to U-Lab (\$85).
- u.lab 1x Leading From the Emerging Future. A self-led 14-week course. Free without certificate; \$71 with certificate. Introduction to Theory-U designed for individuals and groups "to co-learn the practices and principles for deep transformation of business, society, and self". Covers self-knowledge; capacities

- of deep listening, precise observation and dialogue; and practices for creating innovations that generate wellbeing in society.
- u.lab 2x From Prototype to Ecosystem Impact. 17week online course run once per year to support
 "teams, organizations, and larger networks to activate
 co-creative relationships in their stakeholder systems.
 Includes systems mapping, rapid cycle prototyping,
 and a global action research network for knowledge
 sharing. By the end of the journey, participants will
 have created new collaborative initiatives, or new types
 of collaboration within existing initiatives, that help
 to bring about more sustainable and equitable social
 systems worldwide".
- Acting with Confidence in Times of Disruption –
 Presencing Foundation Programme
 (https://www.presencing.org/programs/marketplace/acting-with-confidence-in-times-of-disruption-presencing-foundation-program). Offered once/year, 4 days online; \$750 to 1300 per person.
- Theory-U Tools and Practices- self paced learning using audio recordings for experienced users of Theory-U.
 5.5 hours, \$55.
- Essentials of Theory-U book. £13.65.

T4: United Nations SDG Knowledge Hub (Understand SDGs)

Description

The United Nations Department of Economic and Social Affairs website hosts an SDG knowledge hub which outlines the history of the adoption of the 2030 Agenda for Sustainable Development and for each SDG gives an overview, details of targets and indicators, and progress and information. The site also provides relevant references, resources, case studies and details of upcoming events and opportunities such as training, international forums etc.

Utility

All.

Developer

United Nations.

Access

Open Access at https://sdgs.un.org/goals



T5: EcoliseWiki (Understand SDGs/ Mapping)

Description

EcoliseWiki, currently under development, is hosted by ECOLISE, the European network for community-led initiatives on climate change and sustainability. It forms part of a knowledge commons for community-led action on sustainability and climate change with the aim of supporting the "compilation, synthesis and co-creation of new knowledge" to facilitate the work of ECOLISE members, allied organisations and networks.

For each SDG, EcoliseWiki gives the global definition, an overview of the situation in the EU, summarises the overlap between the principles of community-led initiatives (CLIs) and the SDG, and provides a list of relevant references. CLIs are seen as a potential vehicle for implementation of the SDGs and the SDGs as an opportunity to mainstream and/or upscale ongoing action being undertaken at community scale.

A section on Community-led initiatives and the SDGs looks further at how CLIs work towards the SDGs, providing examples of specific community-led approaches that overlap with each SDG and providing relevant references. This is a useful tool for communities thinking through how their initiatives might map to the SDGs.

Utility

Communities.

Developer

ECOLISE, the European network for community-led initiatives on sustainability and climate change. In 2019 ECOLISE had 46 member organisations which included the Transition Network (representing over 1200 Transition initiatives), the Global Ecovillage Network (15,000 ecovillages), the Permaculture movement (3 million practitioners globally) and ICLEI, the association of local governments for sustainability; as well as specialist bodies engaged in European-level research, training and communications to support community-led action on climate change and sustainability.

Access

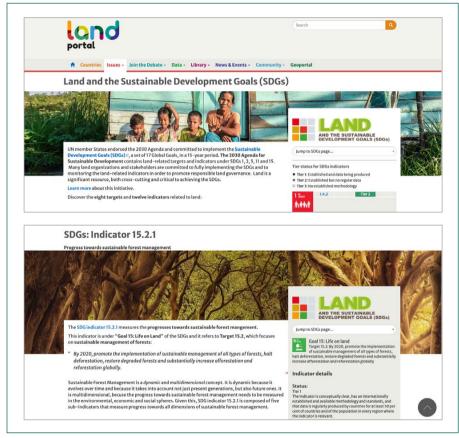
Open source at:

- Main page http://wiki.ecolise.eu/index.php?title=Main_Page
- Community-led initiatives and the SDGs
 http://wiki.ecolise.eu/index.php?title=Community-led_initiatives and the Sustainable Development Goals

T6: Land portal (Understand SDGs)

Description

The Land Portal provides open access to land-related data and information. with the aim of achieving good land governance and securing land rights for landless and vulnerable people. Its page on land and the SDGs, provides useful information and data on the five SDGs (1, 2, 5, 11 and 15), eight targets and twelve indicators related to land. Information is provided on methods for measuring an indicator, why an indicator is important and who is monitoring it globally. Global data is also provided, enabling comparisons between countries. The site also provides relevant resources, links to events etc.



From www.landportal.org/book/sdgs

Utility

Primarily Government, but also others that are looking for useful information relevant to the land-related SDGs.

Developer

The Land Portal Foundation – established to create, curate and disseminate land governance information by fostering an inclusive and accessible data landscape.

Access

Open source at https://www.landportal.org/book/sdgs

T7: Gaia Education – SDG Flashcards, SDG Project Canvas, SDG Multipliers Handbook and Training for Multipliers Workshop (Stakeholders/ Understand SDGs/ Mapping/ Interactions/Targets, indicators & milestones/Integration)

Description

The SDG Flashcards, the SDG Project Canvas (p39), the Training of Multipliers Workshop, and the SDG Multipliers Handbook were developed by Gaia Education and published in partnership with the United Nations Educational, Scientific and Cultural Organization (UNESCO) Global Action Programme on Education for Sustainable Development (GAP)(Wahl, 2019). These three tools and a workshop were designed toengage local communities in a process to translate the SDGs from often perceived top down goals into meaningful community-driven goals and projects at the local level.

The **SDG Flashcards** are designed to stimulate cross-sectoral, culturally sensitive conversations around the SDGs. They explore the four dimensions of Gaia education's systems approach to sustainability (Social, Ecological, Economic, and Worldview) for each of the 17 SDGs through over 200 questions on 51 cards. The cards are used to stimulate question-focused small group conversations with the aim of understanding the SDGs in a holistic way and collaboratively identifying actions and solutions aimed at implementing the SDGs in ways relevant to local lives and communities. This both familiarises communities with the SDGs and at the same time creates local ownership of the SDGs, stimulating associated behavioural change.



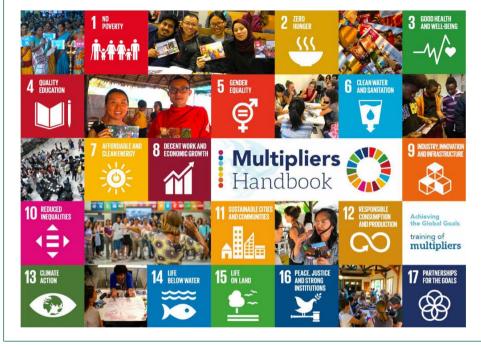
The SDG Project Canvas is an adaptation of the basic 'Business Model Canvas' (Wahl, 2019) and is used in the second half of the SDG Multipliers Training. It facilitates brainstorming, rapid sketching out of ideas and co-creation of SDG implementation projects by small groups. It is a visual chart comprising nine elements and is designed to be used as a template to guide project design and ascertain what is necessary for a project to succeed, such as who the key partners need to be, what activities need to be undertaken, funding and other resources required, the theory of change, key participants and stakeholders.

First delivered in 2016, the Gaia Education Training for Multipliers is designed to build the capacity of facilitators and "multipliers" of the conversation about how to implement the SDGs in different contexts at the local and regional scale using the SDG Flashcards and the SDG Project Canvas. The training is aimed at those who want to teach SDGs, take part in education around the SDGs or facilitate conversations about implementing the SDGs in their community or organisation.



From www.qaiaeducation.org/wp-content/uploads/2018/05/SDG-Multipliers-Handbook.pdf Appendix

The SDG Multipliers Handbook presents detailed guidelines for multipliers to use when replicating this exercise with others. It outlines who the training is for, how it can be adapted to different contexts, a checklist of training materials, guidance on how to set up the workshop space, and offers ideas on how to use the flashcards constructively as well as detailed workshop scripts for half day and full day workshops.



From www.gaiaeducation.org/wp-content/uploads/2018/05/SDG-Multipliers-Handbook.pdf

These tools were developed with a view to enabling:

- Increased community collaboration.
- Clear understanding of all 17 SDGs and their 169 targets and their interactions.
- Prioritisation of goals key to the community.
- Identification of possible multi-stakeholder projects that will facilitate the implementation of the key SDGs in the community and development of a plan to mobilise relevant stakeholders.
- Identification of projects that can capitalise on interrelationships between SDGs to achieve progress on multiple SDGs at the same time.
- Implementation of SDGs in ways that are sensitive to the biocultural uniqueness of place.
- Strategies to demonstrate the feasibility of implementation of the SDGs in the community.

Utility

Communities and Government primarily.

Developer

Gaia Education (a global network of sustainability practitioners and educators) in partnership with the UNESCO GAP Secretariat.

Access

- Two-day Multipliers Training conducted by a Gaia Education Certified Trainer. £149 for 2 days. Available at: https://www.gaiaeducation.org/upcoming-courses/
- SDGs flashcards: set of 61 A5 flashcards available in 8 languages, £20. Available at: https://www.gaiaeducation.org/product/sdgs-flashcards/
- Youth SDG Flashcards: available in English and German. Available at: https://www.gaiaeducation.org/product/ sdgs-flashcards/
- SDG Multipliers Handbook: 36 pages, A4 black and white version, downloadable for free; pdf colour version, £10; printed and spiral bound colour version, £15. Available in English, French and Spanish. Available at: http://www.gaiaeducation.org/files/ SDG-Multipliers-Handbook.pdf
- SDG Project Canvas. available for free on p36 of SDG Multipliers Handbook.

T8: Global Ecovillage Network Map of Regeneration (Mapping)

Description

The Global Ecovillage Network's Map of Regeneration represents the network's road map, highlighting critical areas for attention when creating ecovillages, urban or rural communities in which members work together towards regenerating social and natural environments to bring about positive transformation. The Map has been created through collaboration with Gaia Education which has a similar commitment to promote community-led approaches to living sustainably.

The Map of Regeneration encapsulates GEN's holistic approach to sustainability, integrating the Social, Cultural, Ecological and Economic areas of existence, with, at the centre, the practice of integral design. It comprises 32 Ecovillage Principles, six for

each Area of Regeneration and eight for the central path of integral design. It was developed based on many years of experimentation and learning within GEN and current research around resilience, sustainability and participatory design. The 32 ecovillage principles aim to provide



From https://ecovillage.org/projects/map-of-regeneration

inspiration for individuals, organisations, communities in their everyday lives or whilst formulating projects or plans. Cards are used to support discussion and an interactive process. The principles are captured in the graphic below:

Nurture diversity and cohesion for thriving communities

Develop fair, effective and accountable institutions

Practice conflict facilitation, communication and peacebuilding
skills

Empower collaborative leadership and participatory decision making

Ensure equal and lifelong access to education for sustainability

Promote health, healing and wellbeing for all

Clarify vision and higher purpose
Nurture mindfulness and self-reflection
Enrich life with art and celebration
Honour indigenous wisdom and welcome positive innovation
Engage actively to protect communities and nature
Reconnect to nature and embrace low-impact lifestyles



SOCIAL

Learn from nature and practice whole systems thinking

Identify assets, needs and leverage points
Adapt solutions to scale and context
Be aware of privilege and use it for the benefit of all
Build alliances across all divides
Engage all stakeholders in designs for the future
Spread core patterns of regeneration
Listen to the feedback of the world



CULTURE

ECONOMY





FCOLOGY





DESIGN

Grow seeds, food and soil through regenerative agriculture
Clean and replenish sources and cydes of water
Move towards 100% renewable energy and transport
Innovate and spread green building technologies
Work with waste as a valuable resource
Increase biodiversity and restore ecosystems

Reconstruct the concepts of wealth, work and progress

Commit to responsible production, consumption and trade

Cultivate social entrepreneurship for local regeneration

Increase economic justice through sharing and collaboration

Ensure equitable access to land and resources

Use banks and currencies that strengthen communities

Utility

Aimed at communities, but also applicable to groups, projects, organisations, and even countries who want to work together towards regenerating social and natural environments to bring about positive transformation using the principles of the GEN Map of Regeneration.

Developer

Global Ecovillage Network.

Access

Open source at https://ecovillage.org/ projects/map-ofregeneration/

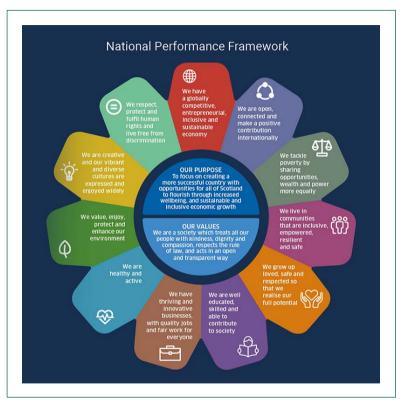
T9: Scottish National Performance Framework (Mapping)

Description

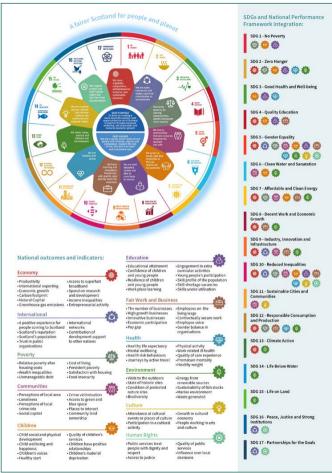
Scotland's National Performance Framework sets out the purpose, or direction and ambition for Scotland and helps guide the country's actions. Its 11 National Outcomes describe what Scotland wants to achieve and its 81 National Indicators enable measurement of progress in social, environmental and economic areas. It is the main mechanism through which Scotland is localising and implementing the SDGs. Like the SDGs, it aims to "encourage transformational, social, economic and environmental change to achieve increased wellbeing and a more peaceful and prosperous future (SDG Network Scotland, 2020).

The outcomes and associated indicators provide a useful reference point for Scottish organisations working on aligning their activities with the SDGs.

Full information on the framework, progress towards achieving the outcomes and associated resources is available on an interactive web portal and the NPF outcomes are mapped to the SDGs in the Scottish Government's Outcomes-Focussed Policy Making Toolkit.



From www.gov.scot/publications/a-changing-nation-how-scotland-will-thrive-in-a-digital-world/pages/national-performance-framework-alignment



From https://nationalperformance.gov.scot/sites/default/files/documents/

Outcomes-focused Policymaking SDG NPF FINAL.pdf p7

Utility

Government primarily, and Scottish communities and businesses secondarily.

Developer

Scottish Government.

Access

Open source at:

- Portal: https://nationalperformance.gov.scot/
- Scottish Government's Outcomes-Focussed Policy Making Toolkit: https://nationalperformance.gov.scot/ sites/default/files/documents/Outcomes-focused_ Policymaking_SDG_NPF_FINAL.pdf

T10: SDG Impact Assessment Tool (Understand SDGs/ Mapping/ Interactions)

Description

The SDG Impact Assessment Tool is a free online tool designed to stimulate learning around sustainability and to help anyone who has a project, activity, idea or organisation to assess their impact on each of the 17 SDGs, identifying opportunities (positive impacts), risks (negative impacts) and knowledge gaps. The tool captures associated discussion notes, presents a visualisation of the results and stimulates reflection on how to mitigate for negative impacts and strengthen positive impacts further. By the end of the process an organisation will better understand the SDGs and their targets, how the different aspects of their work relate to the SDGs and how to prioritise future actions. A guide to the tool is available.

In order to use the assessment tool an organisation must first register, then create a new assessment, and give it a name. From here, the process comprises five steps:

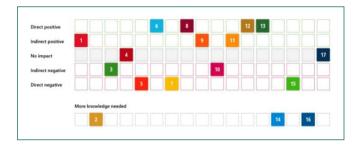
 Gather your forces: gather a small group of stakeholders with a broad range of knowledge and experience.

- 2. **Define, refine and draw the line:** clearly define what is being assessed (study object) and what the boundaries are this is the assessment description that is entered after naming an assessment.
- 3. **Sort the SDGs**: a quick sort of the 17 SDGs according to their relevance to the "study object" relevant, not relevant, don't know.
- 4. Assess your impact: an assessment is done for each SDG one at a time. The tool provides a brief summary for each SDG and lists its targets, and using their knowledge the assessment team decides which type of impact the "study object" has overall on the SDG:



A study object might have a positive impact on one target and a negative impact on another in which case a compromise will need to be reached. The motivation for an assessment must be recorded before moving on to the next SDG.

5. Choose your strategy forward: following completion of step 4 a visualisation of the 17 assessments is generated and the team is then prompted to formulate actions to mitigate negative impacts, support synergies and positive impacts and close knowledge gaps.



Each assessment is saved and can be revisited, reviewed and revised. On completion, a summary of the results can also be printed or saved as a pdf and shared.

Thus, this tool provides an opportunity for a systematic approach, avoiding cherry-picking and ensuring that impacts on all SDGs are covered and discussed. It encourages reflection around the SDGs and the links

between them and can be used iteratively, reflecting the fact that sustainable development is an ongoing process where solutions need to be continuously reviewed and revised. It is designed to be used by a wide range of entities including research and educational institutions, companies, entrepreneurs, civil society organisations, public agencies and communities.

Utility

Designed for use by research and educational institutions, companies, entrepreneurs, civic organisations, and public agencies.

Developer

Gothenburg Centre for Sustainable Development (at Chalmers University of Technology and University of Gothenburg), in collaboration with SDSN Northern Europe and Mistra Carbon Exit

Access

Open source at https://sdgimpactassessmenttool.org/

T11: Global Goals Mapping Tool (Mapping)

Description

The Global Goals Mapping Tool was created to help funders align their grant making with the SDGs and easily map and link grantee activities and projects to the SDGs and their targets. The tool is an Excel spreadsheet which maps giving and volunteerism using the IRS National Taxonomy of Exempt Entities (NTEE) codes and the United Nations International Classification of Nonprofit Organizations (ICNPO) codes to classify the activities and programmes of NGOs and connect them to the SDGs. It is designed to be integrated into existing grants management platforms.

Utility

Funding agencies.

Developer

Global Impact, Blackbaud, the Council on Foundations, and Candid.

Access

Available for \$5000 for use by all staff within an organisation at https://www.cof.org/content/global-goals-mapping-tool

T12 SDG Interactions Framework (Understand SDGs/ Interactions)

Description

The SDG Interactions Framework classifies interactions between SDGs and between targets on a seven-point scale, indicating the nature of the interaction with other targets, and the extent to which the relationship is positive or negative. Positive interactions are assigned scores of either +1 ('enabling'), +2 ('reinforcing'), or +3 ('indivisible'), while interactions characterised by tradeoffs are scored with -1 ('constraining'), -2 ('counteracting'), and -3 ('cancelling') and neutral interactions are assigned a score of zero. The magnitude of the score provides an indication of how influential a given SDG or target is on

another, either positively or negatively. A number of key dimensions (time, geography, governance, technology, directionality) complement the scale and define the context in which interactions occur. This framework helps to identify SDGs and targets that reinforce each other as well as critical clashes. It is designed to be used in a participatory manner to help deepen understanding of interactions between SDGs, to induce inter-agency policy dialogue and cooperation, and to support horizontal coherence across sectors. If used systematically in a given context for key relevant SDGs and targets, it can also be used to map clusters of targets and thus identify resource-effective interventions aimed at focal points.

GOALS SCORING

INDIVISIBLE

The strongest form of positive interaction in which one objective is inextricably linked to the achievement of another. Reduction of air pollution (12-4) is indivisible from improved health and reducing non-communicable diseases (3-4).



REINFORCING

One objective directly creates conditions that lead to the achievement of another objective. Increasing economic benefits from sustainable marine resources use (14.7) reinforces the creation of decent jobs and small enterprise in e.g. tourism (8.5 and 8.9)

ENABLING

The pursuit of one objective enables the achievement of another objective. Developing infrastructure for transport (9.1) enables participation of women in the work force and in political life (5.5)

CONSISTENT

A neutral relationship where one objective does not significantly interact with another or where interactions are deemed to be neither positive nor negative. By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution (14.1) is consistent with target 3.5 Strengthen the prevention and treatment of substance abuse, including narcotic drug abuse and harmful use of alcohol.

CONSTRAINING

A mild form of negative interaction when the pursuit of one objective sets a condition or a constraint on the achievement of another. Conserving coastal areas (14.5) and development of safe affordable housing and basic services (11.1) may constrain each other

COUNTERACTING

The pursuit of one objective counteracts another objective. Ensuring access to safe, nutritious and sufficient food can counteract sustainable water withdrawals (6.4) and reduction of chemicals releases (12.4)

CANCELLING

The most negative interaction is where progress in one goal makes it impossible to reach another goal and possibly leads to a deteriorating state of the second. A choice has to be made between the two. Developing infrastructure (9.1) could be cancelling the reduction of degradation of natural habitats in terrestrial eccosystems (15.1)



Outdoor and indoor air pollution is responsible for 7 million deaths annually, as well as respiratory and cardiovascular disease but also increases in perinatal deaths. In 2012, ambient (outdoor) air pollution was responsible for 3 million deaths, representing 5.4% of the total deaths. Worldwide ambient air pollution is estimated to cause about 25% of the lung cancer deaths. Major urban centers in low and middle-income countries are the most exposed to this burden, (WHO, 2016).

Sustainable and diversified strategies for using the marine resource base open up opportunities for small enterprises in fisheries or other harvesting and associated value-addition activities, as well as activities related to tourism. Many SIDS and LDCs that are rich in these resources also have poor, vulnerable and marginalized coastal communities.

Affordable public transport promotes social inclusion, more equal access to different parts of the city, and enabling employment for marginalized groups. In many places, women do not have access to a car and depend on public transport, walking or bicycling to get around, to work places and to social or political activities (NCE, 2016; GSDR, 2016)

0

There is no significant interaction between the two targets.

-1

Establishing protection areas in the coastal zone and expanding urbanization, infrastructure or transport risks spatial competition especially in densely populated areas. Integrated coastal zone management and marine spatial planning tools are readily available to mitigate spatial competition.



Increasing productivity in agriculture is a necessary (but not sufficient) condition to improve food security. In many places, this might entail increased and/or better irrigation as well as increased use of agrochemical inputs.



In underdeveloped regions, developing roads, dams, and power grids might be a high priority, although it will cause some unavoidable fragmentation of habitats and compromising the integrity of the natural ecosystem, leading to risks to biodiversity as well as social risks.

From Nilsson et al (2017)

The Guide to SDG Interactions developed by the Stockholm Environment Institute (SEI) and International Council for Science (ICSU)(ICSU, 2017) introduces the framework, examines the interactions between four SDGs and their targets, provides examples, and makes recommendations for the future. The four SDGs selected for detailed analysis of SDG and target-level interactions with the other SDGs are:

- Zero Hunger (SDG 2)
- Good Health and Well-Being (SDG 3)
- Affordable and Clean Energy (SDG 7)
- Life below Water (SDG 14)

These four SDGs were selected to give a mixture of key goals aimed at human well-being, ecosystem services and natural resources. Target-level interactions are assessed in the context in which they typically occur and illustrative examples from different parts of the world show how these linkages occur in practice. Interactions were assessed by a team of scientists and scores based on their expert judgment and consultation of diverse scientific literature. The subset of interactions presented can provide a useful resource for governments and organisations.

Utility

Government, researchers, to some extent communities.

Developer

SEI and ICSU.

Access

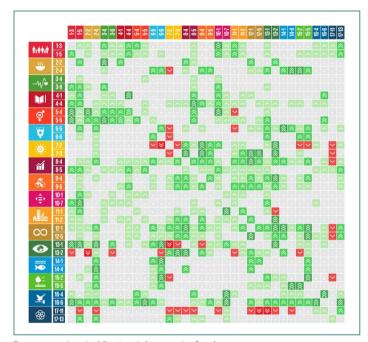
Open source at https://council.science/wp-content/uploads/2017/03/SDGs-interactions-framework.pdf

T13: SDG Synergies Approach (Interactions)

Description

The SDG Synergies Approach was developed by SEI researchers to support efficient policy-making and planning, enabling the exploitation of synergies and mitigation of trade-offs based on an understanding of the interactions between targets as discussed under the SDG Interactions Framework. The aim is to provide a robust basis for priority setting of SDG efforts, enabling the identification of those targets having the most positive influence on other targets; those having the most negative influence; clusters of reinforcing targets etc., and thus identifying key focal points for implementation. The approach is presented fully in Weitz et al. (2018) and summarised in Weitz, Carlsen and Trimmer (2019) who present it as:

- "A practical way of understanding how SDG targets interact in a given context.
- Provides a basis for priority-setting, cross-sectoral collaboration, and assessing alternative development pathways that can drive progress on the whole 2030 Agenda.
- Looks beyond simple target-target interactions to how interactions can ripple through the whole 2030 Agenda.
- Offers a smarter, more robust, likely more cost-efficient way to plan for sustainable development."



From www.sei.org/publications/sdg-synergies-factsheet

The approach comprises three steps and is designed to be conducted with a group of diverse stakeholders in order to gain optimum value from their different perspectives:

1. Customisation

Given that there are over 28,000 direct interactions between the 169 SDG targets, the first step is to choose a subset of the key targets which are considered most relevant and important to the context under consideration. So that none of the SDGs are ignored, an organisation may decide to specify that at least one target per SDG must be selected. Weitz, Carlsen and Trimmer (2019) recommend that no more than 40 targets is practicable. This equates to more than 1500 interactions to score.

2. Scoring interactions

The subset of selected targets are entered into a "cross-impact matrix" and the interaction between every pair of targets is given two scores, one based on the question: "If progress is made towards Target A, how does this influence progress towards Target B?" and the other based on the question: "If progress is made towards Target B, how does this influence progress towards Target A?". Scoring is facilitated by use of the 7-point scale set out by ICSU in the SDG Interactions Framework.

3. Analysis: beyond direct interactions

Once the cross-impact matrix is complete, it is possible to identify patterns, clusters of interacting targets and other network effects. For example:

- A general overview of the matrix will show the predominance of positive (green) and negative (red) interactions, indicating whether the selected targets exert more positive or negative influence on one another.
- A totalling of interaction scores for each row will show the net influence of a target on all other targets.
 - A high row sum indicates that a target has a large net positive influence on other targets. Therefore an intervention that aims to make progress on such a target will likely have a positive influence on other targets.
 - A negative row sum indicates that progress on the target concerned will make it more difficult to achieve other targets.
 - A scan along a row will indicate how many targets are influenced by the target in question and the nature of a target's influence on each of the others, showing where an influence is positive or negative and how strong an influence is.

- A totalling of interaction scores for each column will show how much a target is influenced by other targets.
 - A high positive column sum indicates that a target is highly positively influenced by other targets. Therefore progress on such a target is highly reliant on progress on other targets meaning an intervention aimed at such a target may be compromised by the impact of influencing targets.
 - A negative column sum indicates that progress on other targets hinders progress on the target concerned.
 - A scan down a column will indicate how many targets influence the target in question and the nature of the influence of each of the targets, showing where an influence is positive or negative and how strong an influence is.

All of the above will aid in decision making. A complete discussion of the interpretation of the cross-impact matrix and of the application of network theory to aid analysis, identification of ripple effects etc can be found in Weitz et al. (2018).

Utility

Government, researchers, to some extent communities.

Developer

Stockholm Environment Institute.

Access

Open source at https://www.sei.org/publications/sdg-synergies-factsheet/

T14: Scotland Can B Impact Culture Events & Impact Economy Advisors Training (Integration)

Description

The Scottish government's Scotland CAN B initiative recognises that a significant cultural shift is needed for systemic, transformative change to take place in the way we live and do business. With this in mind they plan to hold:

- Two different impact culture events to bring together a range of Scottish business people to reflect and converse and thus cultivate systemic change:
 - Regenerative leaders fireside gatherings monthly in Edinburgh – 2.5 hours, <12 participants.
 - Impact leaders weekend annual 3 nights, <12 participants.

- Deliver Impact Economy Advisors Training to business advisors who want to learn how to help the businesses they support to understand, define, measure and improve their environmental, social and governance performance.
 - Structured according to Scotland Can B's 6-module impact journey methodology, covering the application of frameworks for impact (SDGs and NPF) in a business context and the effective use of a selection of impact measurement tools, and fostering a community of collaborative impact expertise.
 - Online theory and practical sessions: 8 modules, 18 hours over 4 weeks, < 15 participants.

These events go hand in hand with B-Lab's Impact management tools: B Impact Assessment (https://bimpactassessment.net/) and the SDG Action Manager (Tool 16).



From https://canb.scot/impact-economy-advisors-training

Utility

Business people and business advisors.

Developer

Scotland Can B.

Access

- Impact Culture Events: https://canb.scot/impact-culture/
- Training: £500 per participant, with a limited number of bursaries available to subsidise participation: https://canb.scot/impact-economy-advisors-training/

T15: Global Ecovillage Network Impact Assessment (Mapping/Review progress)

Description

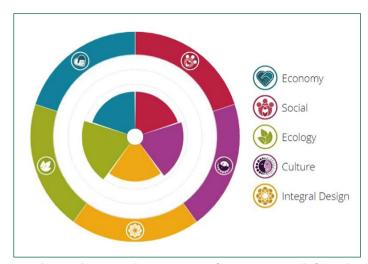
The Global Ecovillage Network (GEN) is currently finalising a self-assessment tool for members to evaluate themselves against the four areas of regeneration (Cultural, Ecological, Economic and Social) and the central path of integral design that make up the Ecovillage Map of Regeneration (Tool 8) as well as against the 17 SDGs. The tool was created to showcase and celebrate community activities, inspire further action, show the relevance of community-led action to the SDGs, and provide clear data for understanding and improving the impact of ecovillages and community-led initiatives. It can be used by groups, projects, organisations, communities and even countries.

Communities are asked about practices such as supporting self-awareness and self-expression, about their shared lifestyle, their food production practices, use of water and energy, their waste generation, practices encouraging ecosystem regeneration, ways in which they engage in economic activities, types of economic activities, equality of access to land, conflict mediation, sharing of power and responsibility, and women's roles.

The assessment tool comprises two assessment levels:

- Level 1 in which community members subjectively score a series of statements about their community on a scale from 0 to 10. Results show average scores for all respondents. It is to be answered by as many members as possible to give a valid result.
- Level 2 which asks a series of less subjective questions about a community's practices, allowing a more objective look at achievements or practices in place in a community. Level 2 is filled in once per community. The response options should inspire communities to take further action to develop their regenerative practices.

For both levels, responses are linked to scores and all questions are mapped to the relevant SDGs, with clear interactive graphics giving communities a visual overview of their status in relation to both the GEN Map of Regeneration and the UN SDGs. Results can be saved and printed.





Results in relation to the GEN Map of Regeneration (left) and in relation to the SDGs (right) From https://ecovillage.org/projects/map-of-regeneration

Utility

Aimed at communities, but also applicable to groups, projects, organisations, and even countries who want to work together towards regenerating social and natural environments to bring about positive transformation using the principles of the GEN Map of Regeneration.

Developer

Global Ecovillage Network (GEN).

Access

Open source at https://ecovillage.org/resources/ impact-assessment2/. Must sign up and create a profile for your community.

T16 SDG Action Manager (Understand SDGs/ Mapping/ Targets, indicators & milestones/ Review progress)

Description

The SDG Action Manager (SDG AM) is an online impact-management platform designed to help businesses of any size, sector or market understand how their business actions can contribute to the SDGs, track and compare their performance, and improve. Although it was designed for businesses it can be used by not-for-profit organisations, with sections that are not relevant being ignored. This tool brings together B Lab's B Impact Assessment for businesses, the Ten Principles of the UN Global Compact, and the Sustainable Development Goals and was informed by the work and feedback of 60+ diverse stakeholders including experts in corporate sustainability, civil society, UN and academia.

The SDG AM is structured as a series of distinct modules: a "Baseline Module" providing a starting point for users and modules for each Sustainable Development Goal. Each module is divided into subsections, featuring a series of questions designed to offer concrete actions for businesses to improve their impact, a performance framework to track their progress and to internally benchmark against others and supplemental resources to assist in implementation.



 $All\ images\ from\ https://www.unglobalcompact.org/take-action/sdg-action-manager$

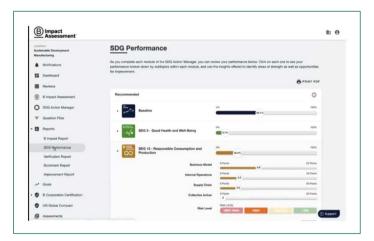
On registering, users answer initial profile questions on the company and the SDG AM loads the appropriate content. All companies start with the baseline module which is rooted in the 10 principles of the UN Global Compact. This module assesses an organisation on the basis of responses to 20 questions grouped into five areas (general overview of company's engagement on social and environmental issues; human rights; labour; environment; and anticorruption). Based on the organisation's activities, the

platform also indicates the SDGs to which the company has the greatest opportunity to contribute based on their sector of operation. Modules addressing each of the SDGs follow a standard format, asking questions about the different parts of a business with potential to drive contributions to the SDGs: business model, internal operations, supply chain, and collective action. A final set of questions addresses the risk level of the company, providing an opportunity to reflect on some aspects of the business where the achievement of the SDGs might be inhibited.

Throughout the process best practice guides and case studies are provided to help with ideas for implementation and feedback is sought. In all modules companies are guided to select areas for improvement, specifying targets, timelines and including notes. Users can invite colleagues to join the SDG Action Manager, contribute expertise and track real-time progress and performance.

A tabular SDG Performance report is generated showing baseline and SDG scores for the company and benchmarked against averages across other businesses in the country, sector and same size range. An improvement report can also be generated showing progress.





Utility

Designed for businesses but it can be used by not-for-profit organisations, with sections that are not relevant being ignored.

Developer

B Lab and the UN Global Compact.

Access

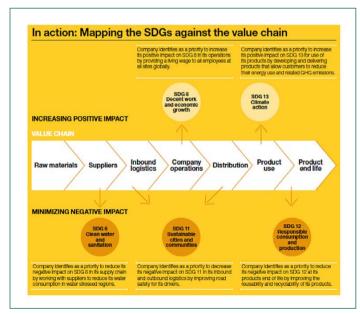
Open source at https://www.unglobalcompact.org/take-action/sdg-action-manager

T17: SDG Compass, the guide for business action on the SDGs (Understand SDGs/ Mapping/ Interactions/ Targets, indicators & milestones/ Integration/ Review progress)

Description

The SDG Compass guides companies on how to align their strategies to the SDGs as well as on how to measure and manage their contribution to the achievement of the SDGs. It outlines five steps for companies to follow:

- Understanding the SDGs: what are the SDGs; understanding the business case; baseline key responsibilities for business.
- Defining priorities: mapping the value chain to identify impact areas; selecting indicators and collecting data; defining priorities.
- Setting goals: defining scope of goals and selecting KPIs; defining baseline and selecting goal type; setting level of ambition; announcing commitment to SDGs.
- 4. Integrating sustainability into the core business: anchoring sustainability goals within the business; embedding sustainability across all function; engaging in partnerships.



From https://sdgcompass.org

5. **Reporting and communicating**: effectively reporting and communicating; communicating on SDG performance.



From https://sdgcompass.org

The downloadable guide is a good starting point for organisations, providing strong guidance on how to engage with and embed the SDGs and the website's three inventories for (1) the goals, (2) business tools and (3) business indicators, provide useful supporting information. **The Goals** presents useful information on each of the

SDGs, providing key business themes addressed by an SDG, and examples of business actions and solutions, key business indicators and tools available. The **inventory of business tools** allows filtering of all tools by SDG or by tool developer and the **inventory of indicators** maps existing business indicators against the SDGs, with filters enabling exploration of indicators related to a specific SDG or target or business theme. The indicator filter also enables one to see how attention to one indicator can impact several SDGs.

Utility

Aimed at companies of all sizes but the process the tool outlines can be useful for all

Developer

Developed by GRI, the UN Global Compact and the World Business Council for Sustainable Development (WBCSD) and incorporating feedback from companies, government agencies, academic institutions and civil society organizations globally.

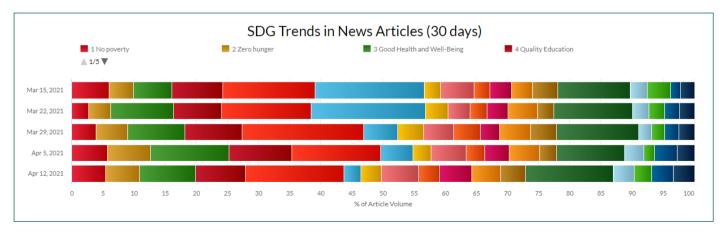
Access

Open source at https://sdgcompass.org/. Downloadable quide.

Bibliography

General SDGs

- sdgs.un.org, (2021). Official website of the UN Department of Economic and Social Affairs Sustainable Development.
 [online]. Available at: https://sdgs.un.org/ [Accessed16 June 2021].
 - This is the official sustainable development website of the UNDESA. It contains the history of the SDGs, relevant publications, resources for capacity development, and for each goal provides details of the targets and indicators, a progress updates, relevant events, and publications.
- sdgresources.relx.com, (2021). RELX SDG Resource Centre website. [online]. RELX, London.
 Available at: https://sdgresources.relx.com/ [Accessed 16 June 2021].
 Interactive news tracker showing global coverage of the SDGs week by week. By hovering over the coloured bars
 - one can see the number of articles and by clicking on the different segments of the bar one can access a detailed listing of news stories for each SDG.



- 3. Asian Development Bank (ADB) and the United Nations Environment Programme (UNEP), (2019). Strengthening the environmental dimensions of the sustainable development goals in Asia and the Pacific. Tool compendium. [online]. ADB & UNEP, Manila, pp 171. Available at: https://www.adb.org/sites/default/files/publication/481446/environmental-dimensions-sdgs-tool-compendium.pdf [Accessed 16 June 2021].
 - A compilation of tools for use by policy makers and government officials to facilitate an integrated approach to development policies, plans, programs, budgeting and investment management. Aimed at helping Asia Development Bank developing member countries to effectively integrate the environment-related SDGs and their targets into national policies, plans, and programs. With its 144 tools, a useful reference resource for anyone working on SDG integration. Tools are organised into six sections:
 - I. Tools applicable to an integrated approach to the SDGs, in general (47 tools)
 - II. Tools applicable to environmental dimensions of the SDGs, in general (24 tools)
 - III. Tools applicable to SDG 12 (Responsible consumption and production) (21 tools)
 - IV. Tools applicable to SDGs 14 and 15 (Life below water and Life on land) (29 tools)
 - V. Tools applicable to SDG 14 (Life below water) (7 tools)
 - VI. Tools applicable to SDG 15 (Life on land) (15 tools)

Business and the SDGs

- 4. blueprint.unglobalcompact.org, (2018). Blueprint for Business leadership on the SDGs website. [online]. UNGC. https://blueprint.unglobalcompact.org/ [Accessed 16 June 2021].
 - Aims to inspire businesses regardless of size, sector and geography to take action to support the achievement of the SDGs. For each goal:
 - · Provides background information on the goal
 - Asks a series of questions around the company's actions in order to help them assess their SDG leadership qualities
 - · Provides possible relevant actions to contribute to the SDG, illustrated by example case studies
 - Illustrates some of the interactions between the goal and other SDGs

- 5. GRI and UN Global Compact. (2017). Business Reporting on the SDGs: An Analysis of the Goals and Targets. [online]. GRI & UNGC, pp. 121. Available at: https://www.unglobalcompact.org/library/5361 [Accessed 16 June 2021]. An inventory of possible qualitative and quantitative indicators for each of the 169 SDG targets based on globally accepted indicator frameworks for business. Examples of potential actions that businesses can take to contribute to the SDGs are provided. This analysis is intended to be used together with "Integrating the SDGs into corporate reporting: a practical guide" and together they aim to provide a unified mechanism to help companies report on the SDGs in a comparable way and by the resultant greater transparency to drive corporate progress towards achieving the SDGs.
- 6. GRI and UN Global Compact. (2018). Integrating the SDGs into corporate reporting: a practical guide. [online]. GRI & UNGC, pp 30. Available at: https://www.unglobalcompact.org/library/5628 [Accessed 16 June 2021]. The guide takes the SDG Compass as a starting point and offers a structured approach to help companies choose which targets to report on in a principled way ('principled prioritization') and how to use their reporting to drive action. Designed to assist companies in integrating the SDGs into existing corporate responsibility and sustainability reporting programs. The guide outlines a three-step process:
 - I. The prioritization of impacts and the identification of key SDGs for a company to act and report on.
 - II. How to set business objectives, select indicators/disclosures and analyse performance.
 - III. Tips and guidance on reporting and improving SDG performance.

8. PwC, (2020). PwC SDG Selector. [online]. PwC.

- 7. PwC, (2016). Navigating the SDGs: A business guide to engaging with the UN Global Goals. [online] PwC. Available at: https://www.pwc.com/gx/en/sustainability/publications/PwC-sdg-guide.pdf [Accessed 17 May 2021]. A guide designed to act as a practical introduction to the SDGs and their implications for business. Each of the SDGs are explained, alongside their relevance to business, and ways in which to mitigate risks and grasp opportunities. Practical examples are given and prioritisation of key SDGs is discussed.
- Available at: https://datatech.pwc.com/SDGSelector/ [Accessed 16 June 2021].

 An online diagnostic tool designed by PwC to enable businesses to ascertain which SDGs are likely to be most relevant to them given their sector and countries of operation. Provides basic statistics and ideas on what businesses can do to contribute positively to progress on each SDG, with an option for each goal to download a short pdf detailing:

- · the global challenge
- · why it matters for business
- · ideas re what they can do about it
- key links to other SDGs
- progress towards achieving the SDG in question
- · case studies
- SDG targets
- · DG indicators and countries' performance against them

It aims to help business map out and visualise their strategic priorities in a more informed way.

Government and the SDGs

- 9. Global Taskforce for Local and Regional Governments (GTLRG), UNDP and UN Habitat, (2017). Roadmap for Localizing the SDGs: implementation and monitoring at subnational level. [online]. GTLRG, pp. 44. Available at: https://www.global-taskforce.org/roadmap-achieving-sdgs-local-level [Accessed 16 June 2021]. Designed to support local and regional governments and other interested local stakeholders to implement and monitor the SDGs by supporting action from the bottom up and using the SDGs as a framework for local development policy. Part of the Toolbox for Localising the SDGs.
- Also aims to be a useful resource for national policymakers, international organizations, civil society organizations, academia and anyone involved in the implementation and monitoring of the SDGs.
- The roadmap covers a range of strategies and examples that can be adapted to the specific contexts and needs of different cities and regions and has five parts: public awareness-raising, advocacy towards national governments, implementation, monitoring and where do we go from here?
- United Cities and Local governments, (2015). The SDGs, what local governments need to know. [online].
 UCLG, pp 24. Available at: https://www.uclg.org/sites/default/files/the_sdgs_what_localgov_need_to_know_0.pdf
 [Accessed 16 June 2021].

For each SDG, summarises its importance for local government and identifies relevant targets for local governments.

11. Scottish Government, (2021). Outcomes focussed policy making in Scotland. [online]. Crown, pp. 37. Available at: https://nationalperformance.gov.scot/guide-outcomes-focused-policy-making [Accessed 16 June 2021].

A toolkit aimed at those developing and implementing policy in Scotland and designed to support holistic policy making, taking into account links to other policy areas both locally and globally. It is informed by Scotland's National Performance Framework and the UN SDGs. The first part of the toolkit aims to build understanding of the SDGs and the NPF and the ways in which they are linked, whilst the second part is a practical step by step guide to facilitate holistic policy development. It covers: scoping; national outcomes/SDG contribution story; intermediate outcomes; priorities and planning; action plan; implementation; and evaluation and reporting as well as an appendix of resources.

Updates in how Scotland is performing and relevant resources are available at:

https://nationalperformance.gov.scot/

Created as result of a partnership between the Scottish Government's National Performance Framework team, the International Development Education Association of Scotland (IDEAS) Network, Scotland's International Development Alliance, SDG Network Scotland and Oxfam Scotland.

12. The Scottish Parliament, (2018). Scottish Parliament Sustainable Development Impact Assessment Tool. [online]. Available at: https://www.intdevalliance.scot/application/files/5015/7925/4564/Scottish_Parliament_SDIA_Tool_2. pdf [Accessed 16 June 2021].

Aims to help policy developers consider whether the policy objectives will support sustainable development and to think broadly about potential outcomes and any unintended consequences. Designed to be used by policy makers and their teams at any point from policy development to the writing of the policy memorandum. However, it is best used as early as possible in the process.

It is based on the UK shared framework for sustainable development (SD) and stimulates reflection by asking a series of questions around each of its five conditions:

- Living within environmental limits
- Ensuring a strong, healthy and just society
- · Achieving a sustainable economy
- Promoting good governance
- Using sound science responsibly

The completed tool can also provide material for the writing of the policy memorandum.

Education and the SDGs

13. UNESCO, (2017). Education for Sustainable Development Goals: Learning Objectives. [online]. UNESCO, Paris, pp. 68. Available at: https://www.sdg4education2030.org/education-sustainable-development-goals-learning-objectives-unesco-2017 [Accessed 16 April 2021].

Designed as a guide for education professionals on how to use education for sustainable development as an enabler for facilitating learning about the SDGs. Aims to support policy makers, curriculum developers, and educators in designing relevant strategies, curricula, and courses with a view to empowering learners to contribute to achieving the SDGs. It identifies learning objectives; suggests topics and learning activities and approaches for each SDG; and describes the different levels of implementation, from course design to the development and execution of national strategic plans, providing guidance and suggestions rather than a prescriptive way forward. The material is designed to be applicable to learners of all ages worldwide and therefore needs to be adapted to the local context.

References

- Asian Development Bank & United Nations Environment Programme. (2019). Strengthening the environmental dimensions of the sustainable development goals in Asia and the Pacific. Tool compendium. [pdf] Manila: ADB & UNEP. Available at: https://www.adb.org/sites/default/files/publication/481446/environmental-dimensions-sdgs-tool-compendium.pdf [Accessed 6 June 2021].
- Breuer, A., Janetschek, H. and Malerba, D. (2019). Translating sustainable development goal (SDG) interdependencies into policy advice. *Sustainability*, [online]11(7), p.2092. Available at: https://doi.org/10.3390/su11072092 [Accessed 30 May 2021].
- canb.scot, (2021). *Scotland Can B Official Website*. [online] Available at: https://canb.scot/ [Accessed on 6 June 2021].
- DNV-GL, (2020). UN Global Compact 20th-Anniversary Progress Report: Uniting Business in the Decade of Action. [online]. UNGC, p.14. Available at: https://www.unglobalcompact.org/library/5747 [Accessed 6 June 2021].
- East, M. and White, R.M., (2016). *Reflecting on the Emergence of the UN Sustainable Development Goals: A Call for Action in Scotland. Report for Scottish Government and COSLA.* [online]. Learning for Sustainability Scotland, pp1-55.

- Available at: http://learningforsustainabilityscotland. org/wp-content/uploads/2019/09/Reflection-SDGs-Scotland_15April2016.pdf [Accessed 14 June 2021].
- Ecovillage.org, (2021). *Global Ecovillage Network's Official Website*. [online]. Available at: https://ecovillage.org/ [Accessed 8 June 2021].
- Garbutt, A. and Simister, N. (2017). *The Logical Framework*. [online] INTRAC. 4 pages. Available at: https://www.intrac.org/wpcms/wp-content/uploads/2017/01/The-Logical-Framework.pdf [Accessed 24 May 2021].
- Grégoire, P. (2020). How Stakeholder Mapping Tools Can Improve Your Stakeholder Management. [online]. Available at: https://www.boreal-is.com/blog/ stakeholder-mapping-identify-stakeholders/ [Accessed 28 May 2021].
- HM Government, (2019). Voluntary National Review of progress towards the Sustainable Development Goals, United Kingdom of Great Britain and Northern Ireland. [online]. Crown, pp 4-213. Available at: https://www.gov.uk/government/publications/uks-voluntary-national-review-of-the-sustainable-development-goals [Accessed 7 June 2021].

- Hope, J. (2021). The anti-politics of sustainable development: Environmental critique from assemblage thinking in Bolivia. *Transactions of the Institute of British Geographers*, 46(1), pp. 208-222.
- International Council for Science (ICSU), 2017. A Guide to SDG Interactions: from Science to Implementation [D.J. Griggs, M. Nilsson, A. Stevance, D. McCollum (eds)]. [online] International Council for Science, Paris, pp. 1-239. Available at: https://council.science/publications/a-guide-to-sdg-interactions-from-science-to-implementation/ [Accessed 14 June 2021].
- intrac.org, (2021). *INTRAC's Official Website*. [online] Available at: https://www.intrac.org/ [Accessed 14 June 2021].
- Könings, K., Bovill, C. and Woolner, P., (2017). Towards an interdisciplinary model of practice for participatory building design in education. *European Journal of Education*, [online] 52(4), pp. 1-12. Available at: https://www.researchgate.net/publication/318622700 [Accessed 14 June 2021].
- Long, G., Clough, E., Molloy, S., Muggleton, E., Hardacre, J., Bolam, R., Cansino, H. and Luxton, L., (2019). *The SDGs and Scotland: a discussion paper and initial analysis*. [online] Available at: https://globalgoals.scot/wp-content/uploads/2019/02/SDG-Discussion-paper-February-2019.pdf [Accessed 7 June 2021].

- MacDonald, J. (2016). Stakeholder Identification and Analysis Made Easy for Project Managers. [online]
 Business 2 community. Available at:
 https://www.business2community.com/strategy/
 stakeholder-identification-analysis-made-easy-project-managers-01440041 [Accessed 21 March 2021].
- Makwana, R. (2016). The truth about poverty and how to address it. *Policy Pract. A Dev. Educ. Review. Issue 22 Cent. Glob. Educ.*, pp. 141–151.
- Morphy, T., (2008). Stakeholder Analysis, Project Management, templates and advice. [online] Available at: https://www.stakeholdermap.com/ [Accessed 14 June 2021].
- Nilsson, M., Griggs, D., Visbeck, M., (2016). Map the interactions between sustainable development goals. Nature 534:320–322. Available at: https://www.nature.com/news/policy-map-the-interactions-between-sustainable-development-goals-1.20075 [Accessed on 28 May 2021].
- Pautz, H., Tozan, O., Bradley, P., Collins, C., Sims, R. and Livingstone, J., (2019). On Target for 2030?: An Independent Snapshot Review of Scotland's Progress Against The United Nations Sustainable Development Goals. [online] UWS-Oxfam Partnership, Collaborative Research Reports Series; 5, 82p. Available at:

- http://uwsoxfampartnership.org.uk/wp-content/uploads/2019/06/On-Target-July-2019-Web-FINAL.pdf (Accessed 7 June 2021].
- Policy Project, (2020). Selecting Methods for Community Engagement. New Zealand Government. [online] Available at: https://dpmc.govt.nz/sites/default/files/2020-10/policy-project-community-engagement-selecting-methods.pdf [Accessed 14 June 2021].
- Projectmanagementdocs.com, (2021). What is a Stakeholder? How to Identify, Analyze and Manage Project Stakeholders. [online]. Available at: https://www.projectmanagementdocs.com/blog/what-is-a-stakeholder-how-to-identify-analyze-andmanage-project-stakeholders/#axzz6qmlTAMpp [Accessed 21 March 2021].
- PwC, (2016). Navigating the SDGs: A business guide to engaging with the UN Global Goals. [online]
 PwC. Available at: https://www.pwc.com/gx/en/sustainability/publications/PwC-sdg-guide.pdf
 [Accessed 17 May 2021].
- PwC, (2019). Creating a strategy for a better world. How the Sustainable Development Goals can provide the framework for business to deliver progress on our global challenge. [online] PwC, p.7. Available at: https://www.pwc.com/gx/en/sustainability/SDG/ sdg-2019.pdf [Accessed 8 June 2021].

- Sachs, J., Schmidt-Traub, G., Kroll, C., Lafortune, G., Fuller, G. (2019). Sustainable Development Report 2019. [online] New York: Bertelsmann Stiftung and Sustainable Development Solutions Network (SDSN). Available at: https://sdgindex.org/reports/sustainable-development-report-2019/ [Accessed 8 June 2021].
- Sachs, J., Schmidt-Traub, G., Kroll, C., Lafortune, G., Fuller, G. and Woelm, F. (2020). *The Sustainable Development Goals and COVID-19. Sustainable Development Report 2020.* [online] Cambridge: Cambridge University Press, p23-28; 468. Available at: https://sdgindex.org/reports/sustainable-development-report-2020/ [Accessed 24 May 2021].
- Scharlemann, J.P., Brock, R.C., Balfour, N., Brown, C., Burgess, N.D., Guth, M.K., Ingram, D.J., Lane, R., Martin, J.G., Wicander, S. and Kapos, V. (2020). Towards understanding interactions between Sustainable Development Goals: the role of environment–human linkages. *Sustainability Science*, *15*(6), pp.1573-1584.
- Scotland's International Development Alliance (SIDA), (2020). Improving policy coherence in Scotland. Delivering a safer, fairer and more sustainable world for all. [online]. SIDA pp. 1-6. Available at: https://www.intdevalliance.scot/application/files/7615/8860/4671/Improving_Policy_Coherence_in_Scotland_PRINT_version_May2020.pdf [Accessed 8 June 2021].

- Scottish Government, (2014). Scotland CAN DO action framework: building on our vision to become a world-leading entrepreneurial and innovative nation. [online]. Crown, pp. 1-20. Available at: https://www.gov.scot/publications/scotland-action-framework-building-vision-become-world-leading-entrepreneurial-innovative/ [Accessed 6 June 2021].
- Scottish Government, (2020). Scotland and the Sustainable Development Goals. A national review to drive action. [online]. Crown, pp. 1-245. Available at: https://www.gov.scot/publications/scotland-sustainable-development-goals-national-review-drive-action/ [Accessed 7 June 2021].
- sdg-network-scotland, (2019). SDG Network Scotland Official Website. [online] Available at: https://globalgoals.scot/sdg-network-scotland/ [Accessed 6 June 2021].
- sdgs.un.org, (2021). Official website of the UN Department of Economic and Social Affairs Sustainable Development. [online]. Available at: https://sdgs.un.org/[Accessed16 June 2021].
- Siitonen, L. (2016). Theorising politics behind policy coherence for development (PCD). *Eur J Dev Res 28,* 1-12.
- Sturgeon, N. (2018). *Launch of National Performance Framework 2018*. [online] Available at:

- https://www.gov.scot/publications/launch-ofnational-performance-framework-2018/ [Accessed: 6 June 2021].
- Sustainable Development Goals Helpdesk, (2020).

 Stakeholder Engagement and Partnerships. [online]
 Available at: http://sdghelpdesk.unescap.org/
 knowledge-hub/thematic-area/stakeholderengagement-and-partnerships
 [Accessed 21 March 2021].
- thetoolkit.me, (2021). The Monitoring and Evaluation Toolkit Official Website. [online]. Available at: https://thetoolkit.me/ [Accessed 14 June 2021].
- tools4dev.org, (2021). tools4dev official website. [online] Available at: https://www.tools4dev.org/ [Accessed 14 June 2021].
- UK Stakeholders for Sustainable Development (UKSSD), (2018). *Measuring up. How the UK is performing on the UN Sustainable Development Goals.* [online] UKSSD, pp 4-10. Available at: https://www.ukssd.co.uk/measuringup [Accessed 23 May 2021].
- ukssd.co.uk (2020). *UK Stakeholders for Sustainable*Development Official Website. [online] Available at:

 https://www.ukssd.co.uk/measuringup/
 [Accessed 23 May 2021].

- UN, (2015). Transforming our world: the 2030 Agenda for Sustainable Development. [online] United Nations General Assembly, New York, pp1-41. Available at: https://sustainabledevelopment.un.org/post2015/transformingourworld/publication [Accessed on 6 June 2021].
- UNESCAP, (2018). Effective stakeholder engagement for the 2030 agenda. Training Reference Material. [online] UNESCAP, pp 1-108. Available at: https://www.unescap.org/resources/training-reference-material-effective-stakeholder-engagement-2030-agenda [Accessed 15 June 2021].
- Wahl, D. (2019). Gaia Education's Resources for Creating Multipliers of Local SDG Implementation. Sustainability, [online] 12 (2), pp134-139. Available at: http://doi.org/10.1089/sus.2019.29155 [Accessed 18 March 2021].

- Weitz, N., Carlsen, H., Nilsson, M. and Skånberg, K. (2018). Towards systemic and contextual priority setting for implementing the 2030 Agenda. *Sustainability Science*, 13(2). 531–48. Available at: https://link.springer.com/article/10.1007/s11625-017-0470-0 [Accessed on: 28 May 2021].
- Weitz, N., Carlsen, H. and Trimmer, C. (2019). SDG Synergies: An approach for coherent 2030 Agenda implementation. [online]. Stockholm Environment Institute. Available at: https://www.sei.org/publications/ sdg-synergies-factsheet/ [Accessed 17 April 2021].
- White, R.M., Marzano, M., Young, J. and Leahy, S. (2018). "But who do we speak to?" Stakeholder engagement for forest health across spatial and temporal scales in an era of austerity. *Journal of Forest Ecology and Management*, 417, pp. 313-322.