

The Agenda 2030 Compass: strategic assessment process

Work Package 5 Report for the Agenda 2030 Compass project

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This report presents the findings from the Agenda 2030 Compass project's Work Package 5 focusing on the development of the strategic assessment process. The project's overall findings are presented in the Agenda 2030 Compass synthesis report, which can be found along with all available project reports at: www.sei.org/agenda2030compass.

The research and development work has been carried out by a consortium consisting of the Stockholm Environment Institute (SEI), Jernkontoret (the Swedish Iron and Steel Producers' Association), the MIT Center for Collective Intelligence and Swedish software developer Swedwise.

Summary

The Agenda 2030 Compass provides a simple, robust process and toolbox for sustainability analysis of planned interventions – e.g. new products, investments and strategies – to ensure these contribute sustainable societal benefit. The project's Work Package (WP) 5 has developed a facilitated participatory process, where analysis and results are co-created in close interaction between a process leading team and the organization responsible for the planned intervention. The process is supported by a software tool that highlights synergies and trade-offs in relation to the global goals for sustainable development (Agenda 2030), that may occur when a planned intervention – in the project terminology referred to as *a strategy* – interacts with dynamics embedded in the societal context where the strategy is planned to be implemented.

Four case studies, covering different types of strategies, were carried out through WP 5, showing very good results: Participants reached a deeper sense about the importance of the SDGs for societal development and gained insights in the power of the 2030 Compass to strengthen a strategy's prospects to contribute sustainable societal benefit.

The participating organisations showed strong interest to continue using and being part of the future development of the 2030 Compass. It was a widely held opinion that the 2030 Compass could play an important role as a structured process for sustainability assessments of a range of different types of planned interventions, e.g. projects, portfolios, strategies and policies.

Sammanfattning

Agenda 2030-kompassen erbjuder en enkel men samtidigt robust process och verktygslåda för att göra hållbarhetsanalyser av planerade insatser – t.ex. nya produkter, investeringar och strategier – för att säkerställa att dessa bidrar till hållbara och samhällsnyttiga lösningar. Inom ramen för projektets femte arbetspaket (WP5) har en strukturerad process utvecklats, där analys och resultat samskapats i nära samverkan mellan ett processledande team och fyra organisationer som alla identifierat olika insatser eller så kallade strategier som de testat gentemot de globala målen för hållbar utveckling (Agenda 2030). Processen stöds av ett mjukvaruverktyg som utifrån de globala målen, lyfter fram de synergier samt behov av anpassningar som kan uppstå när en planerad intervention – eller strategi – samverkar med den dynamik som kännetecknar den samhällskontext strategin är tänkt tillämpas.

Inom ramen för arbetspaketet testades fyra strategier med fyra olika organisationer som alla visade mycket goda resultat: Deltagarna fick en djupare känsla för betydelsen av de globala målen (SDG) för en hållbar samhällsutveckling och kunde med stöd av Agenda 2030-kompassen stärka sin förståelse för hur den testade strategin kunde vidareutvecklas för att bidra till ökad hållbarhet och samhällsnytta.

De deltagande organisationerna visade stort intresse för att fortsätta använda och vara en del av den framtida utvecklingen av Agenda 2030-kompassen. Det var en utbredd uppfattning att Kompassen kunde spela en viktig roll som en strukturerad process för hållbarhetsbedömningar av en rad olika typer av planerade insatser, t.ex. projekt, portföljer, strategier och policyer.

Key words

Agenda 2030, strategy, co-creation, synergies, trade-offs, societal benefit

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1 Introduction

The 2030 Agenda and its 17 Sustainable Development Goals (SDGs) provide broad guidance for societal development within the planetary boundaries. However, the SDGs are complex, and it may not always be evident how a real-world decision might affect the achievement across all the SDGs. Will a new production process, product or policy help advance some of the SDGs, while working against others? Are there synergies or trade-offs that decision-makers need to be aware of? Could an action that is directly beneficial for a certain SDG cause harmful indirect effects on others? Without a full understanding of these complexities, decision-makers may not be able to foresee problems – or they may miss out on valuable opportunities.

The Agenda 2030 Compass Project has addressed the challenge of how to make well informed assessments of the full range of direct and indirect effects that a planned intervention – in the project terminology referred to as *a strategy* – may cause on its surrounding societal context. The aim is not only to gain a deeper understanding about the synergies and trade-offs generated when the direct effects of a strategy meet the societal dynamics of a particular location, but even more so to come up with proposals for how to strengthen positive feedback loops and break vicious cycles.

At the heart of this, the project's WP 5 has innovated and tested a structured, participatory process with the power to assess the following features:

- Positive and negative direct impacts of a strategy
- Indirect effects that are generated when the strategy's direct impacts interact with societal dynamics as described by a predefined, context specific SDG interaction matrix (see WP 2 report)
- Options to avoid negative direct and indirect impacts, and to strengthen synergies between the strategy and its surrounding societal context

Results from the four case studies that were carried out to test and further develop the 2030 Compass were very positive and show that an assessment of one strategy in one societal context can be successfully implemented within a six to eight weeks roundtrip (from initiation to draft final report). Calculated on a case with two facilitators and a group of six participants, the total workload amounts to 80 person hours facilitation and 120 person hours participation, including two preparatory meetings, three half-day workshop sessions, individual work in between workshop sessions, report writing and a final meeting.

Results from the case studies conclude that the 2030 Compass could play an important role as a structured process for sustainability assessments of a range of different types of planned interventions, e.g. projects, portfolios, strategies and policies.

2 Purpose, scope and deliverables

As formulated in the project proposal, the Agenda 2030 Compass has had as its main objective to develop “a robust, well documented, and tested approach and platform (including methodology, metrics and toolbox) for strategic decision making about alternative options to deliver societal value by contributing to the UN Agenda 2030’s Global Goals”.

With the objective “to develop robust methods for using the compass in different participatory processes” WP 5 “*Participatory process design and testing*” has been responsible for developing one of the project’s key deliverables: “a co-creation-based methodology and process documented and tested in the context of group-based assessments of alternative actions and its systemic impacts on the Agenda 2030”. The case study results provide a very clear reflection of the potential value that the 2030 Compass process may have for businesses, public institutions, and civil society organisations alike to ensure sustainability, competitiveness, and societal benefit.

This report presents the findings from WP 5 including two different sets of deliverables:

- Development and construction of the Agenda 2030 Compass process and tool support for strategic assessment, and
- Testing of the 2030Compass through four real-world test cases.

In the project documentation the Agenda 2030 Compass process and tool support is regularly referred to as the 2030Compass.

3 Scientific background and state of the art

This section presents previous research by Jernkontoret and the Stockholm Environment Institute followed by state of the art reviews of two key areas of research: *SDG based approaches for strategic decision making* and *co-creation*.

3.1 Previous research by the partners

The project builds on two preceding projects that were jointly implemented by SEI, Jernkontoret and Swedish steel companies between 2015 and 2018.

In 2013 the Swedish steel industry presented a foresighted vision for 2050: Steel shapes a better future ¹. The vision’s three commitments – technical excellence, creativity and partnership, and resource efficiency – concludes that all outputs from Swedish steel producers shall contribute societal benefit. To turn the vision into action, Jernkontoret initiated a co-creation-based cooperation with SEI and Swedish steel industries. The cooperation was implemented in two subsequent projects funded by the Hugo Carlsson Foundation.

¹ Jernkontoret, ‘About the Vision “Steel Shapes a Better Future”’.

The 1st joint research project – *Swedish steel industry for increased societal value (Svensk stålindustri för ökad samhällsnytta)* – was carried out 2015-2016 using explorative scenario methodology to develop a strategic ten-point action plan for the industry to meet the vision's commitments ². The project concluded that the UN Global Goals, which had then recently been agreed upon, would make for an interesting framework to explore further for assessing the steel industry's commitment to deliver nothing but sustainable societal benefit. The *transformative* nature of the Global Goals was well suited for the industry's aims and comparative advantages in technology, creativity, and partnerships to deliver high-end solutions. The *universal* nature ensured that the societal benefit of future processes and products could be assessed across global markets. The *indivisible* nature made it possible to develop a comprehensive assessment framework, that ruled out sub-optimising and “cherry picking” particularly beneficial Goals, focusing instead on broad societal benefit.

The 2nd project – *Methodology and toolbox development for assessment of societal value creation in Swedish steel industry (Utveckling av metod och verktyg för bedömning av samhällsnytta inom svensk stålindustri)* – was carried out 2016-2018 with the aim to develop a prototype “Agenda 2030 compass” using the UN Agenda 2030's 17 Global Goals and targets to assess how a new product or process could contribute or counteract societal benefit. Based on research by Weitz et al, where cross linkages between the SDGs had been analysed in a Swedish context, the project developed a workshop-based methodology for structured assessment of a planned intervention's potential direct impacts across all the SDGs, and a tool for analysing how the direct impacts translates into indirect effects through the SDG interactions at play in a specific societal context. ³

The current project builds directly on the preceding projects with the aim to develop the prototype Agenda 2030 Compass into a structured process that use the 2030 Agenda's Global Goals to support organisations in the development of sustainable solutions. The 2030 Compass is based on a collective assessment of how a planned intervention, whether a specific product or a wide-ranging strategy, could come to affect the sustainability in a certain societal context, calculated as the vector of the intervention's direct SDG impacts and the resulting indirect effects.

3.2 Review of state of the art

SDG based approaches for strategic decision making

Since the initiation of the project in late 2018, several methodological approaches have been developed for interaction-based analysis of SDG synergies and trade-offs. Di Lucia et al. has reviewed a range of analytical methods for SDG based interaction analysis to assess the extent

² Hallding et al., ‘Recommendations for a 10-Point Strategic Action Plan for the Steel Industry's Vision #societalvalue’.

³ Hallding and Blixt, ‘Agenda 2030 Compass’.

to which these are suitable to support decision making processes⁴. The review identifies six methodological approaches that are presented in Table 1 below.

As briefly summarised here, the Agenda 2030 Compass contains strong elements of several of these approaches, which will be further illustrated in this report.

- **Self-assessment:** The 2030 Compass bases the assessment of a strategy's impact on the surrounding societal context on participant's knowledge.
- **Expert judgement:** While the assessment of a strategy's societal impact is essentially a self-assessment based on workshop participants' pre-existing knowledge the workshop preparations involve identification of competence needs to ensure that key topics are covered by expert knowledge. The creation of societal context maps is a moreover a process involving both expert panels and expert crowd sourcing in combination with empirical data analysis (see WP2.1 and WP2.2 project reports).
- **Statistical analysis:** Analysis of historical data has provided one important input in the 2030 Compass research process to develop a methodology for creating societal context maps based on empirical data (see WP2.1 project report).
- **Modelling SD:** The Agenda 2030 Compass process and tool support is based on a straightforward systems model, where the indirect societal effects of an intervention is calculated by applying a vector of the intervention's direct SDG impacts on an SDG interaction matrix that is specific to a certain societal context.

In the development and design of the Agenda 2030 Compass the project team has taken note of the conclusion from Di Lucia et al. that "decision-makers prioritize methods that are simple and flexible to apply and able to provide directly actionable and understandable results".

⁴ Di Lucia, Slade, and Khan, 'Decision-Making Fitness of Methods to Understand Sustainable Development Goal Interactions'.

Methods	How interactions are analysed	Purpose of analysis	Examples of applications
Self-assessment	Interactions are characterized exclusively based on pre-existing knowledge of users	- Scoping (problems and objectives)	SDG Impact Assessment Tool ⁵
Expert judgement	Systematic judgement by a group of experts is used to characterize relations between pairs of SDG targets.	- Scoping (problems and objectives) - Prioritization (objectives)	Scientific studies and SDG Synergies tool ⁶
Literature-based	Evidence from the scientific literature is used to qualify interactions between SDGs	- Scoping (problems and objectives) - Prioritization (objectives) - Search for alternative actions	Scientific studies ⁷ and SDG-IAEA framework ⁸
Statistical analyses	Statistical techniques are applied to analyse the relationship between pairs of SDG targets based on historic data.	- Prioritization (objectives) - Monitoring	Scientific studies ⁹
System dynamic modelling	System thinking and stock and flows models are used to simulate impacts of interventions on SDGs over time.	- Scoping (problems and objectives) - Prioritization (objectives) - Search for alternative actions - Evaluation of alternatives actions	Scientific studies ¹⁰ and iSDG model ¹¹
Coupled component modelling	Computer models from different disciplines are combined to simulate the impacts of scenarios on a set of SDGs over time	- Evaluation of alternatives actions - Monitoring	IMAGE model ¹² applied at regional/global scale ¹³ and CLEWs framework ¹⁴ applied at local level ¹⁵

Table 1: Typology of different methods for SDG based interaction analysis to support decision making processes, adopted from Di Lucia et al.¹⁶

⁵ Gothenburg Centre for Sustainable Development, 'SDG Impact Assessment Tool'.

⁶ Weitz et al., 'Towards Systemic and Contextual Priority Setting for Implementing the 2030 Agenda'.

⁷ Nerini et al., 'Connecting Climate Action with Other Sustainable Development Goals'.

⁸ de Almeida et al., 'Actions to Align Energy Projects With the Sustainable Development Goals'; Castor, Bacha, and Fuso Nerini, 'SDGs in Action'.

⁹ Kroll, Warchold, and Pradhan, 'Sustainable Development Goals (SDGs)'; Pradhan et al., 'A Systematic Study of Sustainable Development Goal (SDG) Interactions'.

¹⁰ Collste, Pedercini, and Cornell, 'Policy Coherence to Achieve the SDGs'; Pedercini et al., 'Toward Achieving Sustainable Development Goals in Ivory Coast'.

¹¹ Millennium Institute, 'iSDG - Integrated Sustainable Development Goals Model'.

¹² Netherlands Environmental Assessment Agency, 'IMAGE 3.2 Documentation'.

¹³ van Soest et al., 'Analysing Interactions among Sustainable Development Goals with Integrated Assessment Models'; Vuuren et al., 'Pathways to Achieve a Set of Ambitious Global Sustainability Objectives by 2050'.

¹⁴ Ramos et al., 'The Climate, Land, Energy, and Water Systems (CLEWs) Framework'.

¹⁵ Engström et al., 'Cross-Scale Water and Land Impacts of Local Climate and Energy Policy—A Local Swedish Analysis of Selected SDG Interactions'.

¹⁶ Di Lucia, Slade, and Khan, 'Decision-Making Fitness of Methods to Understand Sustainable Development Goal Interactions'.

Co-creation

The implementation of WP5 has been based on co-creation as a central methodological approach.¹⁷ Co-creation is commonly used in the business sector in processes where businesses and customers engage jointly to create value.¹⁸ The approach is often used also in iterative research processes, where stakeholders are actively involved from the onset of an initiative, including the formulation of the research agenda, the research process, and in analysing and discussing the results¹⁹. Prahalad and Ramaswamy emphasize that “the individual is central to the co-creation experience” and that co-creation is about increasing value. It allows end users to jointly define and solve a problem, by co-constructing the research process to ensure it is well adapted to the user’s context²⁰.

WP5 has drawn on Ramaswamy’s work on how artefacts, processes, interfaces, and persons come together in purpose-built system environments of platformed interactions, increasingly enabled by digitized technological platforms.²¹ He suggests that the experiences of the participating individuals are more central to the value creation than the product itself. The concept of such an interactive platform is critical for ensuring that the outcomes provide added value and are actionable.

Under WP5, the project team has been working in close cooperation with the case study organisations to develop a straightforward, yet robust approach that responds to the conclusion from Di Lucia et al.²² about actionable results but also including perspectives that strengthens the outcomes connected to the strategies that are tested.

4 Methodology and implementation

The Agenda 2030 Compass has been developed in a co-creation process, where the methodological development of the 2030 Compass process and tool itself has been interwoven with a project-internal but independent and reflexive process for evaluation of the project’s case studies. This section begins with an account for the project set-up, followed by a presentation of the 2030 Compass process, a brief note on how the different tools is structured, and finally a description of the methodology used for the evaluation of the case studies.

¹⁷ see e.g. Ramaswamy and Ozcan, ‘What Is Co-Creation?’; Voorberg, Bekkers, and Tummers, ‘A Systematic Review of Co-Creation and Co-Production’.

¹⁸ Prahalad and Ramaswamy, ‘Co-creating Unique Value with Customers’.

¹⁹ Mauser et al., ‘Transdisciplinary Global Change Research’.

²⁰ Prahalad and Ramaswamy, ‘Co-Creation Experiences’.

²¹ Ramaswamy, ‘Leading the Transformation to Co-creation of Value’.

²² Di Lucia, Slade, and Khan, ‘Decision-Making Fitness of Methods to Understand Sustainable Development Goal Interactions’.

4.1 Project set-up

Glossary

The 2030 Compass project has used and developed a terminology to make it easier to refer to specific features. The following glossary explains the specific terminology used in the 2030 Compass methodology:

- **SDG interactions:** The degree of synergy or trade-off on another SDG resulting from progress (or regress) on one SDG.
- **SDG interaction map:** A matrix showing the strength of the SDG interactions ranging from +3 (strongly reinforcing) to -3 (strongly conflicting), with a score of 0 indicating neutral interaction.
- **Strategy:** An organisation-specific plan to reach specific objectives set by the organisation and which may have positive or negative impacts on the SDGs in a certain location. A strategy could involve different kinds of interventions such as policies, products, materials, production process, modalities, etc. to be implemented in a specific context.
- **Strategy owner:** The organisation responsible for the strategy to be assessed.
- **Process leader:** The person leading the 2030 Compass analysis. Ideally, this task is divided on a main facilitator for the overall process and one or several co-facilitators to focus on e.g. emerging thematics, clustering of sticky notes and breakout sessions.
- **Project team:** The team involved in a 2030 Compass project including process leader(s) and participants
- **Societal context:** A location, usually territorially and/or typologically defined, with a specific set of SDG interactions that are contingent on the area's preconditions. A context could be a specific country, region or city, or a type area that is defined by a limited set of key parameters, e.g. income, access to energy water and sanitation, and social stability factors.
- **Context mapper:** A component of the 2030 Compass that based on data, assessments and algorithms can generate an SDG interaction matrix for a specific context.
- **Scoring tool:** A component of the 2030 Compass that compiles an aggregate assessment of a strategy's impacts on specific SDGs based on workshop participants' individual assessments.
- **Direct effects:** SDGs / targets where the effects of a strategy have a direct impact. The direct effects are assessed by the workshop participants.
- **Indirect effects:** SDGs / targets where impacts from a strategy are caused through the direct impact on other SDGs / targets. The indirect effects are calculated through the SDG interaction map and thus assessed by the SDG tool.
- **Think-write-share:** a facilitated method for structured groupwork assessments (see *Figure 7*).
- **Acupuncture points:** SDG interactions with high potential for synergies or trade-offs between the strategy and the societal context.

Cases

The strategic assessment process covers three principal cases that, depending on the nature of strategy to be tested and selection of context(s), could be combined into tailor-made processes for each specific case. The process steps presented in this report reflects the first case.

1. **One strategy applied on one context (main case):** Assessment of the impact of one strategy on the prospects for progress (or regress) across all SDGs in one context. The process involves assessment of how the context's SDG interactions are affected by the original strategy and of updated strategy versions that result from the assessment process, and how potential changes in both the strategy and in the surrounding context could generate more synergies and less trade-offs.
2. **Several alternative strategies applied in one context:** Similar to the main case but involves comparison between the impacts of several alternative or complementary strategies on a context's SDG interactions.
3. **One strategy applied on several contexts:** Similar to the main case but involves comparison of how one strategy affects the SDG interactions across several contexts.

Implementation environment

The Agenda 2030 Compass can be implemented as an online workshop process, as a physical workshop with software support, or as a combination of the two. The online workshops are implemented using a combination of a digital conference platform e.g. Teams or Zoom, the 2030 Compass tool, and MURAL²³, a digital whiteboard platform with intuitive facilities and tools where workshop participants can use digital whiteboards, sticky notes, etc. to share ideas, run brainstorming and other creative or reflective activities. The process presented in this report is builds on online workshop implementations, based on the following setup:

- The digital conference platform provides the basic meeting space, where participants interact using a web cam and microphone.
- The 2030 Compass tool, accessed through a separate web interface that is optimised for the Chrome browser, is used to solicit individual scorings and present direct and indirect scoring results.
- The MURAL boards, based on templates for each of the process steps, are used to gather information and analyses about the strategy and how it interacts with the societal context. In addition, MURAL boards have been developed to present the Agenda 2030 Compass methodology and specific workshop procedures (see example in Figure 2 below).

The specific interfaces will be further described under section 4.2 below.

²³ Mural, 'MURAL Is a Digital-First Visual Collaboration Platform'.

4.2 Process steps

The process is built around a series of discrete steps divided into four blocks and organised as a game board (Figure 1). The workshop process is typically divided into three half day sessions with a period of facilitated homework exercises in between. However, the scheduling of workshop sessions should of course be based on the needs from the organisation and nature of the strategy to be assessed.

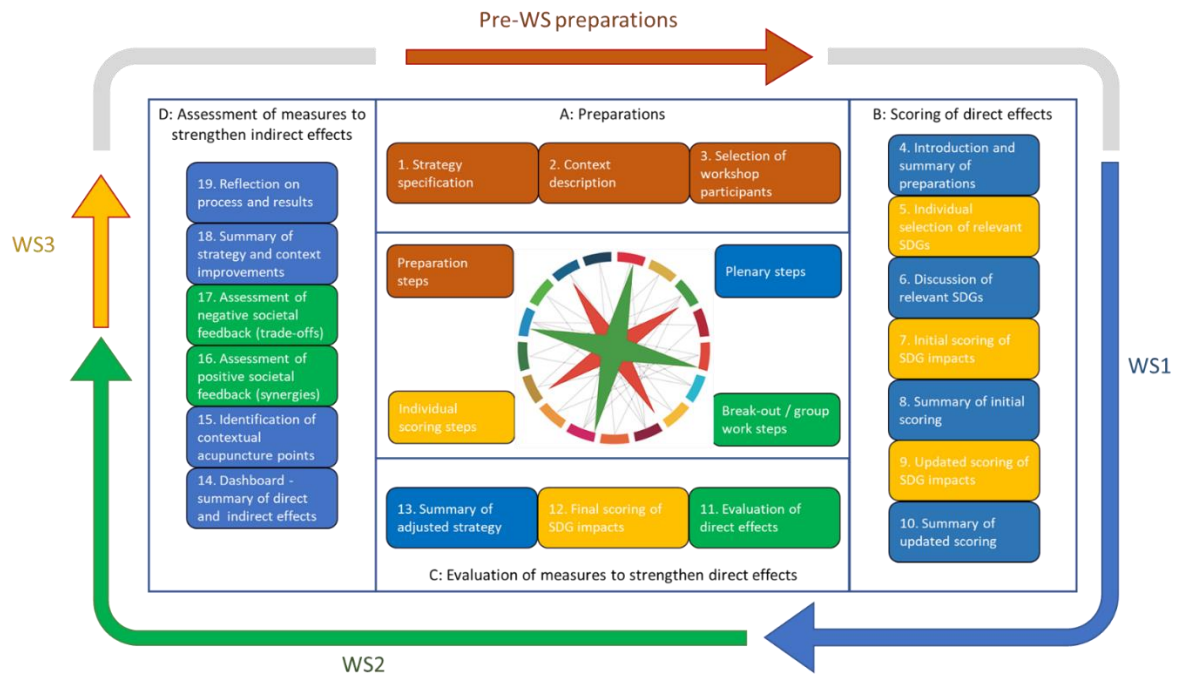


Figure 1: Agenda 2030 Compass process game board

Block A, Preparations

As indicated in Figure 1 above, the workshop preparations are carried out through the following three steps:

- 1. Strategy specification:** The strategy is specified in terms of its key objectives and characteristics, including the following items:
 - Short strategy description, background, key questions, and scope / delimitations
 - Identification and specification of key parameters that characterise the strategy and sets it apart from a baseline (or another strategy)
- 2. Context description:** The context(s) of interest for the case is described and characterised using an SDG interaction map generated by the *Context Mapper*, as well as other SDG related materials e.g. United Nation Sustainable Development Goals website²⁴, the SDG Tracker²⁵ and the Knowledge for Sustainable Development:

²⁴ United Nations, 'Sustainable Development Goals'.

²⁵ Richie et al., 'Measuring Progress towards the Sustainable Development Goals'.

Interactive repository of SDG interactions ²⁶. The strategy specification is used to focus on and add detail to the context description on key areas of interest and potential impact. The targets associated with each of the SDGs should be used as a point of departure for contextual considerations. For each of the SDGs, specific knowledge needs are identified in relation to the contextual considerations.

3. **Selection of workshop participants:** Workshop participants are identified by the strategy owner in dialogue with the process leader based on the nature and composition of the strategy owner as well as knowledge needs. The case studies have indicated that a minimum of 3-4 up to 8-9 participants is suitable / feasible for a web-based process. Ensure that participants are familiar with the case by sharing the preparatory MURALS. Share links to training material about the SDGs.

The preparations are typically carried out through a facilitated process, where the process leader organise a couple of one-hour meetings and/or regular check-ins with the strategy owner using a MURAL board (Figure 2 below) for documentation and communication within the 2030 Compass project team. The preparatory work is based on the following points of departure:

- All participants are invited to engage through the MURAL board. One person from the strategy owner's organisation takes responsibility for entering and updating the text boxes, while other participants provide feedback and input through sticky notes.
- The MURAL is designed to make it easy for all participants to access and interact with an updated version of the preparatory work and to ensure that they are well informed about the strategy to be tested before the start of the actual workshop.
- Before the actual workshop, all participants should familiarize themselves with the SDGs and the strategy's potential impact on each of the SDG's.
- It is important to consider the level of knowledge within the project team about SDG interactions and to what extent additional knowledge might be needed.

²⁶ Pham-Truffert, Rueff, and Messerli, 'Knowledge for Sustainable Development'.

[illegible]

Figure 2: MURAL board for workshop preparations

Block B, Scoring of direct effects

Block B (Figure 1) initiates the workshop sessions with the aim to arrive at a first collective assessment of the strategy's direct effects on the societal context. Organised as a series of individual assessments mixed with discussions, Block B is designed to familiarise workshop participants with the 2030 Compass process and how to think around the interaction between the strategy and the societal context. Block B is arranged into the following steps:

4. **Introduction and summary of preparations:** The process leader presents the process, the overall implementation plan, and the agenda for the current session(s), after which the preparatory work is presented by someone from the strategy owner's organisation followed by discussion and clarifications.
5. **Individual selection of relevant SDGs:** The process leader introduces the 2030 Compass tool and guides participants to the interface for individual selection of relevant SDGs (Figure 3 below).

- Here it is important to stress that the exercise is not about prioritisation of SDGs, but a matter of *collectively arriving at a selection of SDGs that are relevant in terms of the strategy's direct positive or negative impact on the societal context*: SDGs on which the strategy is considered to have negligible or insignificant *direct* impacts should not be selected.

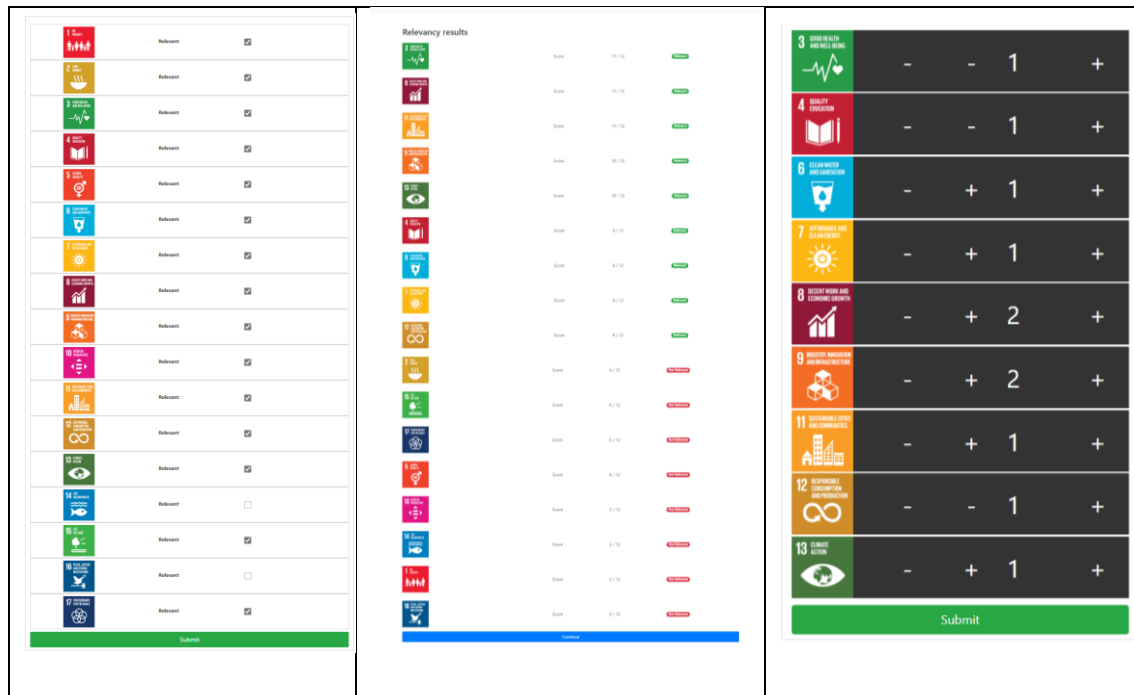


Figure 3: Interface for individual selection of relevant SDGs

Figure 4: Presentation of results from joint selection of relevant SDG

Figure 5: Scoring Tool that is used for individual scoring exercises in steps 7 (initial scoring), 9 (updated scoring) and 12 (final scoring)

6. **Discussion and final selection of relevant SDGs:** When all participants have indicated which SDGs they think are most relevant, the process leader presents the workshop participants with the results interface (Figure 4 above). This step is led by the process leader and involves a final selection of a set of SDGs that the group agrees are relevant for the further analysis.
 - Only the process leader has access to the 2030 Compass tool interface for marking which SDGs that are relevant.
 - Initially, the process leader marks the SDGs that all participants consider as relevant.
 - Subsequently, SDGs where participants have made different choices about relevancy are discussed until consensus is reached about which set of SDGs to select for the initial round of scoring.
7. **Initial scoring of SDG impacts:** When the group has agreed on the set of SDGs that are relevant for the analysis, the participants move to the 2030 Compass tool's "Initial Scoring Assessment" function (Figure 5 above). Here, the participants make their own individual scoring of each SDG's direct impact on the societal context.
 - The assessment is made on a scale from +3 – *strongly promoting* to -3 – *strongly restricting*, with 0 indicating *no influence*.

- It is important that the process leader provides guidance about the scoring scale
- It is not uncommon that the strategy's impact on a certain SDG could be considered both positive and negative depending on which aspect of the SDG that is in focus. *Therefore, participants should be instructed to put special emphasis on the risk for negative impacts as these are more important to find remedies for.*

8. **Summary of initial scoring:** When all participants have submitted their scoring, the process leader presents the initial scoring results (Figure 6 below). The results are discussed, and workshop participants are encouraged to motivate their scoring.
- This discussion serves as a sounding board for participants to calibrate their individual scoring by sharing how they argued during the preceding scoring of SDG impacts.

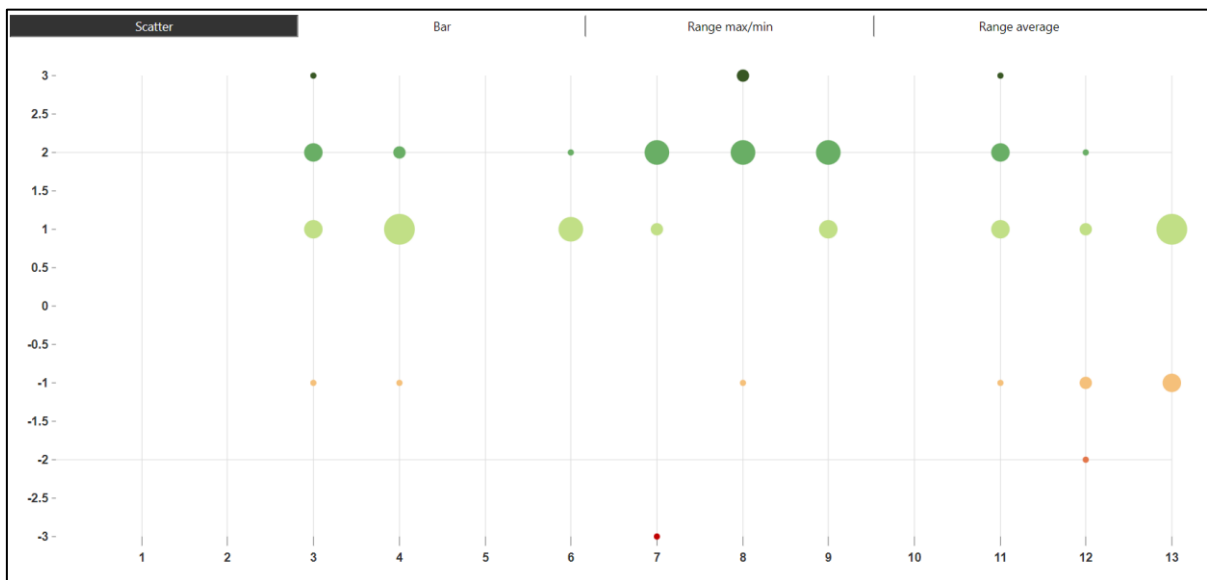


Figure 6: Presentation of results from scoring exercises in steps 8 (initial scoring), 10 (updated scoring) and 13 (final scoring). In addition to the “scatter” graph, the presentation widget allows for alternative ways to present the scoring results (bar, range max/min and range average).

9. **Updated scoring of SDG impacts:** Based on reflections from the group discussions the participants are invited to update their individual scoring.
- The scoring tool will present each participant with her/his previous scoring in an “updated scoring” function similar to the one presented in Figure 5 above.
10. **Summary of updated scoring:** The process leader presents the results of the updated scoring like in step 8 above. The results are used as a point of departure for the subsequent group work under Block C.

Block C, Evaluation of measures to strengthen direct effects

After having arrived at a first joint scoring of the strategy's direct effects on the societal context, Block C focuses on in-depth groupwork to identify, discuss and evaluate the *direct* positive and negative impacts that the strategy may have on each SDG, and to generate suggestions for the strategy improvements. Based on the suggestions for strategy improvements the groupwork is followed by a final update of the scoring.

The groupwork is based on the think-write-share method, a guide for which was developed as an instructive MURAL board (*Figure 7* below).

Usually, the first half-day workshop session concludes after initiating the group work. The evaluation of direct effects is subsequently finalised individually through a facilitated homework and concluded at the following second workshop session.

11. Evaluation of direct effects: The process leader introduces the MURAL board used for this exercise below (*Figure 8* below). The work is carried out one SDG at a time with consecutive think-write-share sessions focusing each of the frames for “positive impacts”, “negative impacts” and “potential improvements”.

- Each think-write-share session begins by providing participants a few minutes to think on their own about positive and negative impacts, then write them down on a digital sticky-note and place them on the MURAL board. Finally, each participant is invited to present their sticky-notes to the group, one at the time. The participants are encouraged to use separate colours for their sticky-notes to facilitate the round of discussion (see *Figure 7* above).
- Usually, the first half-day workshop concludes after having worked through one or two goals. Participants are instructed to carry out the evaluation work individually through a facilitated homework before the second half-day workshop session (see further under section 4.3 below). The second half-day workshop begins by a (roughly) one-hour run-through of the homework – one SDG at a time – led by the process leader.

12. Final scoring of SDG impacts: The participants are invited to update their individual scoring taking into account the opportunities for strategy improvements that have been suggested.

- The scoring tool will present each participant with her/his previous scoring from step 7 above.


13. Summary of adjusted strategy: The process leader presents the results of the final scoring in a view similar to step 8 and 10 above followed by a side-by-side comparison of the scoring with and without the suggested strategy improvements. The results of the final scoring are used as input for the subsequent evaluation of measures to strengthen indirect effects under Block D.

Step-by-step Think-write-share instructions

What is Think-Write-Share?

Think-Write-Share is designed to provide users a structured approach to critically think through any question and serves as a starting point for hearing all voices in any discussion. This tool is very effective for enabling critical and creative thinking.


Think-Write-Share is based on the simple notion that it is often better to think something through before presenting it to others.



Step 1: THINK!

The first step is to think. What is the question at hand that you are going to consider and respond to? Did you understand the question? If not, then ask the facilitator!


- When you understand the question: think through the different considerations and responses that come to your mind.
- Then jot them down on a notepad and think through which of your ideas that you consider being most important.



Step 2: WRITE!

The second step is to write down your best two or three ideas on sticky notes. But before you go ahead and jot down a few words that make sense to you, or try fitting a small novel on the sticky note, consider how to present your idea. It is important that the others can read and understand your idea also after the workshop.

- One idea or concept on each sticky-note
- Keep it short
- Keep it simple
- Be specific so that your point gets through to the group




Step 3: SHARE!

The third step involves the whole group. The facilitator invites you one and one to present one of your ideas.

- If you have thought of proposing an idea that is similar to what someone else in the group have already proposed, then choose one of your other ideas.
- If your proposal is not identical but somewhat akin to another idea ask the facilitator to put it side by side with that note.

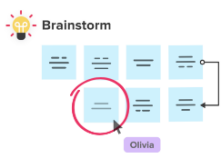
When everyone has presented their first idea the facilitator will invite you to a second and possibly also a third round of sharing ideas.



Using Think-Write-Share in Mural

Think-write-share was developed for IRL workshop with real people interacting in a room with pens, sticky notes, whiteboards and flip charts. In Mural we simulate the same features. But as we are not in the same room we cannot arrange the seating in a nice half-circle in front of the whiteboard, and we have no personal spaces for keeping the sticky notes.


Therefore we have adopted Think-write-share to fit the virtual room.



Adding and editing a sticky-note

Adding a sticky-note is the most simple thing you can do in Mural: Just double-click at the place in the Mural board where you like your sticky-note to appear.

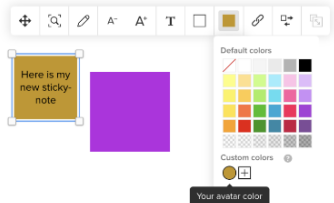
- Write down your idea on the sticky-note or - even better - copy and paste it from the notepad on your computer where you have prepared your ideas
- The font size will adjust automatically - so don't bother about that
- If you want to change something, just select the note again by clicking it and either write new text or change the text by double-clicking the text to enter a text edit mode
- Don't change the size of the sticky-note - all notes needs to be the same size



Selecting your colour for the note

It will be a lot easier to identify who has written a certain note if all participants chose their predefined and unique avatar colour for the notes.

- To set your avatar colour just select your note by clicking it once and chose the "colour" tool on the pop-up context menu - just as in the figure below
- Now, all your subsequent notes will be in your colour



Adding notes in the workshop

As are no "personal spaces" on the Mural board, you will add a sticky-note with your first idea directly in a frame on the Mural board that we have prepared for the different group exercises. The example below illustrates the set of frames that we use for assessing the strategy's direct positive and negative impacts on a certain goal and the potential for improvements to strengthen the strategy.

- Add your first note by double clicking in a frame and follow the steps in the preceding instructions
- To make it easy to add notes without covering others' notes the frames are set to align the sticky-notes automatically in a grid structure




Figure 7: MURAL board developed as an introduction for workshop participants to the think-write-share method used in the 2030 Compass group work

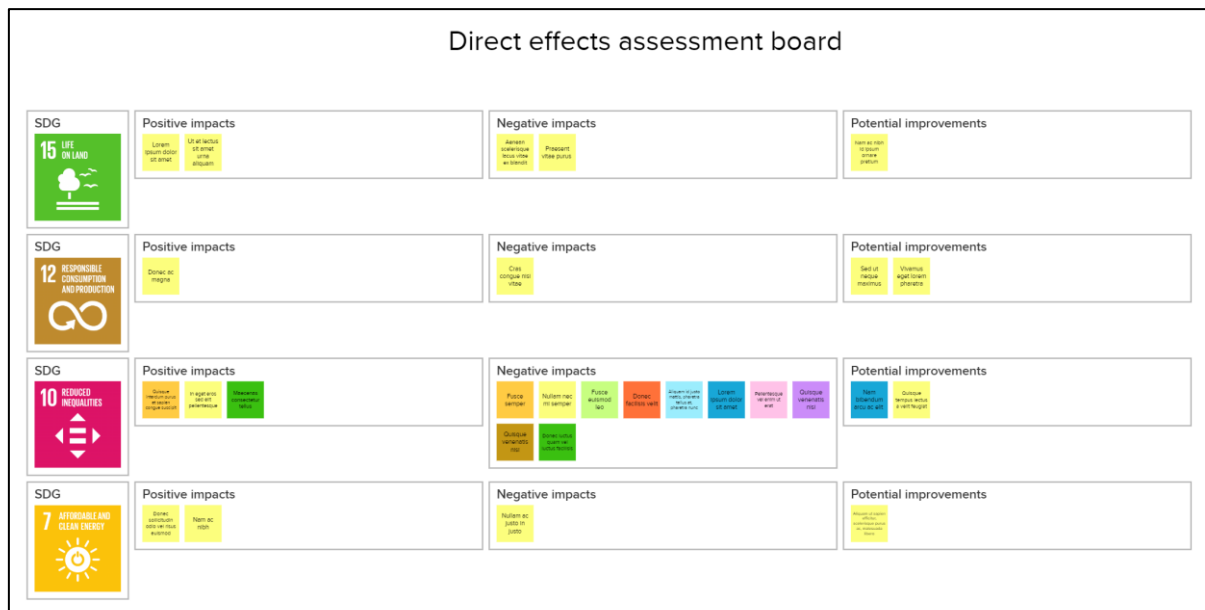


Figure 8: Direct effects assessment board in MURAL

Block D, Evaluation of measures to strengthen indirect effects

Having worked through the strategy's direct effects making proposals for improvements in Block C, Block D turns the focus to the *indirect effects*. Indirect effects may occur when the direct, usually positive, effects of a strategy meet a societal dynamic where changes in relation to one SDG could result in both positive and negative feedback loops creating societal synergies and trade-offs. Block D kicks off by introducing the 2030 Compass analytical tools – the dashboard and the acupuncture points – followed by think-write-share base groupwork to evaluate how factors in the societal context could be adjusted to strengthen the strategy's positive impacts (synergies) and avoid negative feedback loops (trade-offs). The strategic evaluation is finalised by a joint discussion to summarise the scope for improvements of the strategy's direct effects as well as the indirect societal effects. The workshop sessions conclude with a SWAT analysis-based reflection on the workshop process itself.

14. **Dashboard – summary of direct and indirect effects:** The process leader introduces the Dashboard view illustrating how the vector of the strategy's direct effects is projected on the societal cross-impact context matrix to generate an output vector representing the indirect effects that the strategy may result in after meeting the societal preconditions (see Figure 9 below)
15. **Identification of contextual *acupuncture points*:** After running through the dashboard view the process leader introduces the *acupuncture view*, where the strength and direction (synergies and trade-offs) of all indirect interactions are highlighted.
 - Using the filter levers above the matrix in the interface, the process leader facilitates an exercise to identify acupuncture points that indicates strong synergistic potential or where adjustments to features in the context have

potential improve conditions for the strategy to be more effective (see Figure 10 below).



Figure 9: Dashboard view (bars immediately to the right of and under the matrix show summaries of matrix rows and columns without strategy impacts)

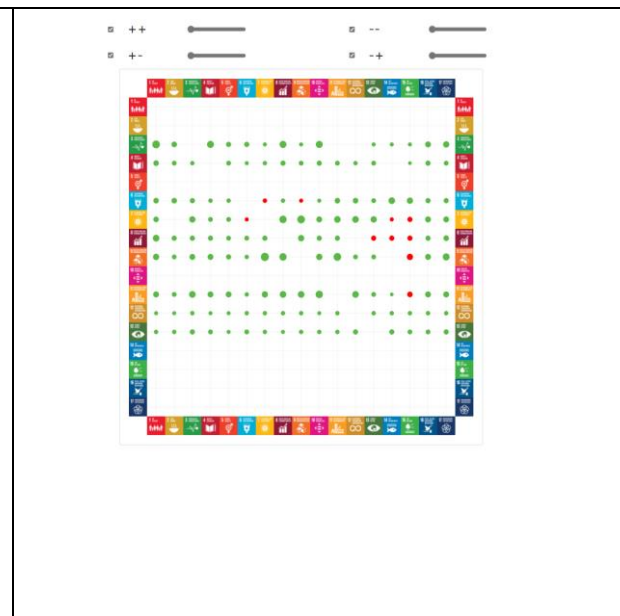


Figure 10: Acupuncture points view showing all interactions. Filters above the matrix can be used to highlight the most important synergies and trade-offs.

16. Evaluation of positive societal feedback (synergies): The process leader introduces a MURAL board similar to the one used for the evaluation of direct effects in step 11, but with focus on the dynamics at play when the direct effects of the strategy meet the societal context (see Figure 11 below). Group work is carried out analysing one pair of SDG interactions at a time, with consecutive think-write-share sessions focusing each of the frames for “dynamics” and “potential improvements”.

- Similar to the procedure in step 11, this is a good juncture – after having worked through one or SDG pairs – for concluding the second half-day’s workshop session. Again, participants are instructed to carry out the evaluation work individually through a facilitated homework before the second half-day workshop session (see further under section 4.3 below). The final half-day workshop begins by a (roughly) one-hour run-through of the homework – one SDG-pair at a time – led by the process leader.

17. Evaluation of negative societal feedback (trade-offs): The evaluation of trade-offs is carried out like in step 16 above.



Figure 11: Indirect effects assessment board in MURAL

18. **Summary of strategy and context improvements:** The process leader initiates a discussion to conclude on the most important results from the analysis. Ideas for key takeaways, thematic reflections and other crosscutting issues that may have emerged through the workshop sessions are summarised by the process leader (or an appointed note taker) on a document or PPT that is shared through screen sharing.

- The process leader should prepare in advance ideas for thematic and crosscutting concluding points to use as a kick-off for the discussion.
- The summary should eventually be used as point of departure for an executive summary in the final assessment report focusing on strengths, risks/weaknesses, and potential for improvements as three organising headings (see step 19 below).

19. **Reflection on process and results:** As a final step in the workshop process, the process leader invites the participants to share their impressions of and reflections on the 2030 Compass methodology and process including the tool support. The exercise is carried out using the think-write-share method where the participants use sticky-notes on a simple SWOT analysis matrix (Figure 12 below). The results from the SWOT analysis carried out during the four case studies are summarised under 5.3 SWOT analysis below.

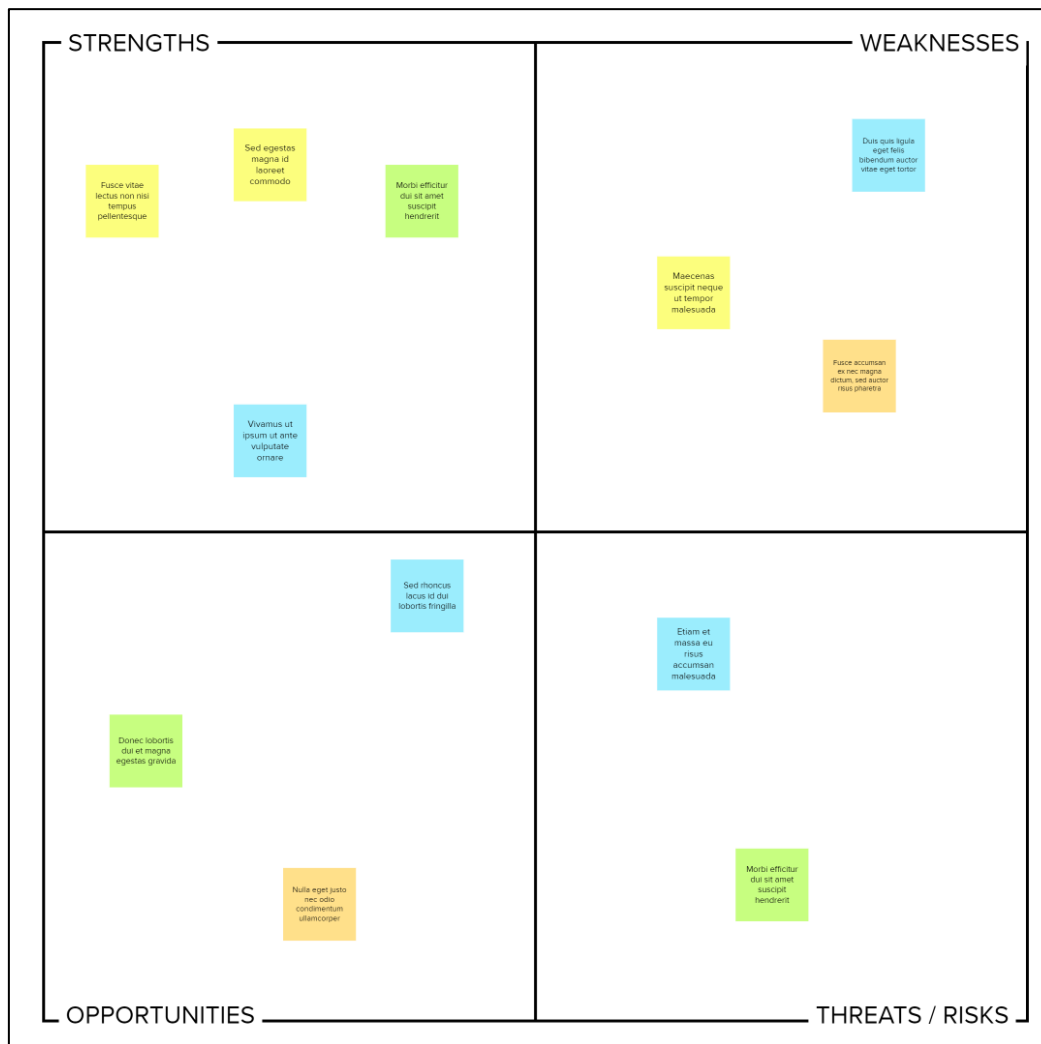


Figure 12: SWOT analysis for process reflection in MURAL

4.3 Specific methodologies and tool support

Think-write-share

Think-Write-Share refers to a generic set of methods for engaging a group of people in thinking about a given topic, enabling them to formulate individual ideas and share these with the larger group. The method exists in a number of more or less similar form such as Think-Write-Pair-Share and Think-Pair-Share.²⁷ The version used in the 2030 Compass methodology was designed by the project team to provide a structured approach adapted for the MURAL based online workshop format (see *Figure 7* above).

²⁷ See e.g. Sharma and Saarsar, 'TPS (Think-Pair-Share)'.

Facilitated homework

Depending on the number of participants and how many SDGs that have been selected as relevant for the analysis, the groupwork in steps 11 and 16-17 can usually not be completed within the timeframe of the half-day workshop format that based on case study experiences is recommended for each of the workshop sessions. However, the time between the sessions provides opportunity for a facilitated process where participants work individually in the MURAL board. This format has been elaborated in the work with both the direct and the indirect impact assessment boards (Figure 8 and Figure 11).

The homework is facilitated through e-mail exchange and sticky-notes in the MURAL boards. The process leader checks in regularly to guide, coach and encourage participants to add content and reflections to the MURAL boards, e.g. using round sticky-notes to provide guiding questions and reflections in the MURAL board. Depending on how far the group has reached before ending the previous workshop session and the time available before the subsequent session, the facilitation could be designed to focus on specific aspects for example on certain parts of the assessment board, where additional work is needed, or by dividing the evaluation of remaining SDGs / SDG pairs across the time until the next workshop session.

Before the next workshop session, the process leader reviews the MURAL board and prepares suggestions for clustering of similar sticky-notes to clarify main topics and themes. These will be used by the process leader in the introduction to the subsequent half day workshop as a summary of participants' contributions.

Workshop report

The main findings from the workshop process is summed up in a simple workshop report that is structured to allow for a straightforward drafting process closely based on the workshop material generated in the MURAL boards. Case study A and B were summarised in more basic workshop report forms. Depending on how the organisation want to use the final report, a more elaborate report can also be developed, allowing for more analysis. Two such reports were developed for Case study C and D.

4.4 Methodology used for the evaluation of the case studies process

To test the Agenda 2030 Compass, four distinct case studies were set up as a series of workshops with participants from different partner organisations (Table 2 below). The 2030 Compass research team worked in close collaboration with the partners to design the strategies to be analysed as part of the workshop process. The process was led by a main process leader, supported by a co-process leader and included the two sustainability experts from SEI who were responsible for the evaluation process. Depending on the number of participants from the strategy owner's organisation, the experts took on different roles during the workshops. If fewer participants, the experts took an active role as SDG and topic experts to contribute to the different exercises and discussions. If already many participants from the organisation, the experts took a step back and did not contribute as actively.

To collect feedback from participants on both the 2030 Compass tool and the workshop process, the research team collected data using the following methods:

- Pre-workshop interviews with 1-2 key representatives from each partner to map their motivation for participating in this process and what outcomes they were hoping to achieve
- SWOT analysis of the tool and process with all participants as the final step in the workshop process
- Web-based questionnaires for all workshop participants to get individual feedback on the workshop process design, the tool components and the facilitation
- Post-workshop interviews to follow up with participants from the pre-workshop interviews on their expectations and to seek deeper understanding on questions such as:
 - the extent to which the 2030 Compass exercise strengthened the understanding of how the organization may contribute sustainable societal benefit
 - potential for using the tool as support for strategic decision making in the future

5 Results and outcomes

The presentation of results is based on the evaluation of the case study process that was carried out as a separate activity under WP 5 (described in the methodology section above). This section begins with a brief description of the four case studies followed by reflections from case study participants based on pre-workshop interviews, workshop-based SWOT analysis, web based questionnaires and post-workshop interviews. The results are further elaborated on in a forthcoming research article.

5.1 Case studies

Four case studies were carried out to test and provide input for incremental development of the 2030 Compass process and tool. The findings from each of the case studies were summarised in separate case study reports. Table 2 below provides a brief presentation the four case studies. All available reports can be accessed at: www.sei.org/agenda2030compass.

Case	Organization	Strategy tested	Participants / sessions
A	Small start-up company (producer of light weight steel electric scooters/mopeds)	Ongoing case: Sustainability aspects of the company's light-fold production of e-scooters compared with current scooter production methods, and what can be done to further enhance positive synergies and mitigate trade-offs to increase societal benefit in light of the 2030 Agenda?	3 participants / 2 sessions
B	Management consultancy (specializing in sustainable business transformations)	Completed case: Test how a new local energy system impacts on the global goals in light of the 2030 Agenda in comparison with a traditional energy system, and what can be done to further enhance positive synergies and mitigate trade-offs.	4 participants / 3 sessions
C	Swedish municipality	Ongoing case: With focus on the municipality's new mobility strategy under development: "What effects would a transport distribution of 60/40 by 2035 have on the global goals compared to a linear 'business as usual' development" and what can be done to further enhance positive synergies and mitigate trade-offs?	7 participants / 2 sessions
D	Two actors involved: Large consultancy (specializing in sustainable societal transformations) in collaboration with Swedish Regional Council	Completed case: How can the Region's innovation strategy for sustainable growth be strengthened to increase societal benefit in light of the 2030 Agenda, and what can be done to further enhance positive synergies and mitigate trade-offs?	9 participants / 3 sessions

Table 2: Case studies and strategies tested (number of participants excludes the two process leaders and two experts from SEI)

All cases were mainly examples of where **"One strategy applied on one context (main case)"** (see "Cases" under 4.1 Project set-up), where the workshop assessed the one strategy across all SDGs in a Swedish context. However, case A involved reflections, but not a full analysis, of how the strategy could provide societal benefit also in other societal contexts (Poland and India). Through the workshop process, the participants assessed how the context's SDG interactions were affected by the strategy and how potential changes in both the strategy and in the surrounding context could generate more synergies and less trade-offs.

As illustrated in Table 2, case A and C addressed strategies currently under development whereas cases B and D) reviewed strategies developed at an earlier stage.

5.2 Pre-workshop interviews

Semi-structured interviews were conducted before and after the workshops with on or two key individuals from each partner organisation. The aim was to get a deeper understanding of the organisations' current work with the SDGs, their future ambitions and needs, their expectations for participating in the project, particularly to test the 2030 Compass tool, and how they intend to use the results.

Common to all four partners were their ambition to gain deeper insights in how they could successfully and meaningfully integrate the 2030 Agenda in their operations and strategic development. All proved curious about testing the 2030 Compass tool and learning what it

could offer in terms of strategic assessments. With at least some prior experience with more simple tools for strategic sustainability assessments, they all had high expectations for the 2030 Compass' ability to deliver more sophisticated analysis about sustainability synergies and trade-offs associated with their respective strategies.

The level of pre-understanding and knowledge of the 2030 Agenda varied across the partner organisations as well as within each case study group. The partner in Case A had limited prior understanding of the SDGs, while the partners involved in other three cases were all well acquainted with the SDGs and the 2030 Agenda. The two public organisations (one regional and one local/municipal) were moreover responding to sustainability agendas from the political levels in their respective localities.

In addition to providing insights into needs, interests and expectations, the pre-interviews also helped shaping the final details in the workshop preparations.

5.3 SWOT analysis

A SWOT analysis (Strengths, Weaknesses, Opportunities and Threats) was carried out at the end of each workshop (step 19 in the 2030 Compass process) to get a quick reflection of how participants through the case study exercise had perceived the 2030 Compass process and tool support. The following reflections summarise views provided by participants on sticky notes and in discussions at the end of the final workshop session.

Strengths

- Knowledge exchange and learning with others, e.g. discussions about risks and opportunities
- Nurturing connections between competencies different departments
- Learning about the 2030 Agenda including reflection of SDG interactions
- Clarification of synergies and trade-offs between the goals
- Holistic understanding of the SDGs
- The identification of “acupuncture points”
- Resulting in concrete proposals for how a specific strategy may be improved
- Innovative, intuitive, and well-designed tool support with clear and easy to follow steps
- A digital workshop format allowing for collaboration regardless of geographical location
- Several participants suggested the process would be valuable for their organisation's upper management to engage in

Weaknesses

- Results are contingent on the participants' expertise and experiences, and it is critical to involve participants with the right competence and perspectives to not miss out on important aspects

- While the process is intensive and can come across as time consuming, the systematic approach for working through both direct and indirect effects was much appreciated
- Several people reflected on the tool and process being somewhat complicated and requiring careful preparation to ensure good outcomes

Opportunities

- Further development of the already good ability to visualise effects of strategic choices
- The 2030 Compass could be used regularly to test different strategies in the organisation
- The process provides opportunities to increase competence and learning about the 2030 Agenda and to generate new insights by increasing collaboration across departments and different areas of expertise
- Potential to help organisations navigating the broader sustainability context of current and future initiatives to develop the full potential for societal benefit
- Support to start-ups in testing business ideas to ensure sustainability and strengthened societal benefit
- To refine a strategy by broadening the assessment and thereby realise additional opportunities to increase the societal benefit
- One participant contended that: “We now have a structured way of making the world more sustainable!”

Threats / Risks

- Lack of relevant competences in the project team could lead to inaccurate or biased assessments
- The complexity understanding the indirect effects involves risks that these are largely determined by the participants’ previous level of knowledge and experiences
- Risk that flawed assumptions leads to faulty conclusions if key preconditions e.g. boundaries of the study and the characterisation of strategy and societal context are not well understood by participants prior to the workshop sessions
- The requirement for participants to commit time (all in all about eight hours of workshop time divided on three workshop sessions plus workshop preparations and participation in homework) could imply that individuals with ultimate responsibility for the design and implementation of a strategy are unable to participate
- Threats / risks suggested from the first case study (Case A) reflected technical bugs that were resolved before the following three cases and no further comments relating to technical problems were raised in the subsequent case studies (see further discussion below).

5.4 Web-based evaluation

All participants were asked to respond to an online evaluation form in direct connection to the first and the final half-day workshop sessions. Questions focused on participants’ reflections on the workshop process, tool features and facilitation.

Overall, participants were very pleased with how the 2030 Compass process had contributed to enhanced learning about the SDGs and how to work as an organisation to ensure that strategies contribute societal benefit in relation to the 2030 Agenda.

Participants were particularly positive about the think-write-share based groupwork to assess direct and indirect effects (process steps 11, 16 and 17). There was agreement also that certain process steps were inherently challenging and required the kind of professional process leadership that was offered in the case studies. The dashboard view in process step 14 (presenting the direct effects vector, the context matrix and the indirect effects vector) was seen as particularly challenging to understand, while the acupuncture points view in the subsequent step 15 was easier to understand (see Figure 9 and Figure 10).

5.5 Post-workshop interviews

The follow-up interviews engaged the same individuals as the pre-interviews and were conducted about one week after the final workshop. Overall, partner organisations very positive about their engagement in the project.

An important purpose of the test cases was to identify technical bugs and understand how the workshop process could be further improved. Technical bugs and some process-related issues experienced during Case A provided the 2030 Compass team with important initial feedback. After bug fixes and finetuning of the workshop process the subsequent workshops run smoothly and without technical problems.

Initial findings from the first Case

- The workshop process (especially the phase preceding the workshop) had to be refined and partly restructured to better prepare and provide the foundation for the strategy to be tested, and to ensure all participants had the same pre-understanding before entering the workshop sessions.
- A successful workshop process is dependent on participants' full engagement and that too few participants risk resulting in outcomes that might not be supported by the organization as a whole. Case A was represented by only three persons, where the leading person due to COVID-19 could participate only in part of the workshop. As a result, an additional workshop session was arranged to discuss and consolidate final results. Eventually, the Case A partners' overall impression of the tool was very positive, and the outcomes was perceived as highly useful for the company's strategy formation.

Workshop process

- The workshop process was perceived as educational and inspirational, providing participants with broader insights into the SDGs and their relevance to the strategy in question, as well as a unique comprehension of their interconnectedness ("you are simply forced to get yourself well versed with the goals and think them through in a systematic way").

- The workshops enabled the exchange of knowledge, ideas, perspectives, and experience in a conducive and collaborative space.
- Some informants reflected on the challenge of holding workshops online, let alone on such a complex theme. A strong overall response reflected that the 2030 Compass tool and the professional facilitation had managed to overcome the technical and communication barriers well.
- The assessment in Block D of synergies and, above all, trade-offs was perceived to be rather complex, particularly in respect of the limited time available.
- Some participants perceived a sense of pressure from competing tasks making it difficult to devote enough time to the 2030 Compass work.

Facilitation

- The facilitation proved valuable in terms of introducing and educating about the tool, guiding the process, supporting the discussions, explaining and clarifying questions.
- It was widely agreed that the process was ambitious and intellectually demanding and could not have been easily undertaken without the facilitation from the two co-process leaders.

Tool support

- The Compass tool was considered to offer unique opportunities to assess synergies and tradeoffs between various SDG goals.
- Having to switch between different online platforms/tools (two MURAL boards, and the Compass tool) was perceived as somewhat challenging.

6 Discussion

This section covers reflections on the 2030 Compass process in relation to state of the art and a set of specific issues that have emerged through the case studies.

6.1 Results in relation to state of the art

The case study results and reflections from case study participants show that the 2030 Compass approach has managed to strike a good balance between simplicity on the one hand and analytical depth on the other. With reference to the study by Di Lucia et al. on alternative approaches for SDG interaction-based assessments²⁸, the case studies show that the 2030 Compass process is perceived as simple and flexible to apply and able to provide decision makers with directly actionable and understandable results.

²⁸ Di Lucia, Slade, and Khan, 'Decision-Making Fitness of Methods to Understand Sustainable Development Goal Interactions'.

6.2 A facilitated process

The case study participants were overwhelmingly positive to the Agenda 2030 Compass. However, recognising the complexity of SDG interactions and the overview needed to navigate the process, there was consensus among participants about the importance of careful, professional facilitation such as was provided during the case studies. Qualified facilitation is consequently key to a successful workshop process and involve ensuring the following tasks:

- Careful presentation of the process and tools before the workshop to prepare participants for the various exercises and ensure successful outcomes
- Guiding participants through the process from beginning to end
- Leading and stimulating discussions without proactively suggesting solutions
- Leading clustering exercises and providing tentative conclusions from groupwork exercises in Block C and D
- Facilitating formulation of key summary points and conclusions as well as leading a concerted effort to compile the final report

The facilitation model used in the project case studies has involved two facilitators: a process leader/main facilitator responsible for overall facilitation, and a co-facilitator responsible for reflection and feedback on contents. Experience shows that facilitation of this type of processes is demanding and while the facilitation has to be carried out in close dialogue between the two facilitators, a division of responsibilities during the workshop sessions is necessary to provide the quality needed to drive the process.

With facilitation playing such a key role for entertaining a successful process, it is important to establish some sort of certification process for 2030 Compass process leaders.

6.3 Competence requirements and knowledge gaps

The 2030 Compass builds essentially on a bottom-up process²⁹, where the assessment of a strategy's direct and indirect impacts on its surrounding societal context relies on two key factors:

- the knowledge and experiences of the project team, particularly the case study participants, and
- how well the project team understands the strategy and the specific characteristics of the societal context.

A case study team is naturally composed of the people involved in the development of the strategy, e.g. a product development team or a department of a municipal administration. While usually possessing technical expertise in the field of the strategy, these teams may not have the full understanding of the characteristics of the societal context, and they often lack

²⁹ This does not apply to the context mapper component of the 2030 Compass, where societal context maps for specific locations are served up based on empirical data and expert judgement (see WP2.1 and WP2.2 reports)

the broader competences needed to assess the strategy's potential impacts across the SDGs. This may result in failure to identify important SDG related impacts, to understand synergies and trade-offs, and to come up with relevant and actionable proposals for improvements.

In the course of carrying out the four project case studies two sustainability experts from SEI were supplied as "external experts" in the project team. The added value of involving external experts depends largely on the competence of the partner organisation's team, but experiences from the project case studies were positive in coming up with complementary views and deeper insights in the broader structure of the SDGs and their respective targets. The external experts did also pick up smaller tasks, e.g. note taking and documentation.

While the Block A in the 2030 Compass process involves identification of competence needs, it is important that knowledge requirements and potential gaps are addressed through the course of the workshop sessions and followed up in the final case study report.

6.4 Online vs. physical workshop settings

The 2030 Compass process was originally intended as a physical workshop process with software support. With the COVID-19 pandemic, however, the process had to be revised to enable a fully online based process. As the intention was still to be able to run the process also as a physical workshop or a combination of online and physical components, the process was designed with MURAL as a platform to support the groupwork based components, including whiteboard, sticky-notes and other artefacts that would normally be used in a physical workshop setting. The proprietary 2030 Compass tool was developed to handle data input from and presentation of workshop participants' scoring of direct effects in Block B and C, as well as presentation of the context map and calculation of indirect effects and acupuncture points in Block D.

While this modular design allows for altering between physical and online settings, it means that participants during workshop sessions must switch back and forth between multiple software apps, each with different login procedures. Moreover, the facilitator needs to manually transfer results from 2030 Compass tool to prepare the MURAL boards for the groupwork in Block C and D. While not critical for the overall process, these moments of switching between the different platforms cause interruptions in the workshop flow. However, it is not feasible to build the kind of functionality for interactive groupwork that is offered by a professional platform such as MURAL into the proprietary 2030 Compass tool. Such development would moreover make it difficult to alter between physical and online workshop settings. Therefore, the ambition should be to explore opportunities to provide better integration between MURAL and the 2030 Compass tool or to explore other platforms e.g. Miro.

6.5 Simplicity vs. depth of analysis

A key challenge in the development of the Agenda 2030 Compass has been to strike a balance between a process that is simple, transparent, and possible to implement in a reasonable timeframe, and an analysis that generates results that are relevant and reliable. The feedback

from case study participants gives a strong indication that the 2030 Compass manages to strike that balance. While there were individual remarks that the process was both time and energy demanding, others commented that the complexity of the SDG interaction assessment required more time. The reflection from most of the participants was that benefits clearly outweighed costs: the learning gained and the progress made on assessing the sustainability of a strategy were faster and smoother than had they tried to achieve the same results on their own.

To manage this tension between simplicity and depth of analysis it is important to design each strategy analysis carefully and to plan facilitation, implementation and follow-up based on the characteristics of the individual case, including scope of the strategy, contextual focus, and number of participants. These questions are covered by the preparatory work in Block A, where it is crucial that the process leader and the strategy owner jointly plan the analysis including number and timing of workshops, participants availability, need of external experts, preparations for facilitated homework, and if needed options for additional workshop sessions and other follow up activities.

7 Conclusions

Through the achievements in WP 5, the Agenda 2030 Compass project has met its objective to develop a robust method for the 2030 Compass to be used in participatory processes. In the words of the original proposal the project has delivered “a co-creation-based methodology and process that has been documented and tested in the context of group-based assessments of alternative actions and its systemic impacts on the Agenda 2030”.

The results from WP 5 have demonstrated that Agenda2030 Compass is a valuable tool for assessing where and how an organisation’s strategy leads to positive synergies or negative trade-offs on the global goals and how the strategy can be strengthened to realise greater societal benefit.

The success of the Compass tool, particularly in its current shape and level of maturity, relies in great part on the tool supported process for co-creation, reflection and learning among participants and the involved project team. The process has emerged through a careful design and iterative approach of testing and refining a structured and facilitated participatory process that engages a broad set of competencies across an organisation.

Several participants reflected that the 2030 Compass process encourages discussions and strengthens interactions and collaborations across departments that typically do not have close collaboration. Apart from making the strategy under scrutiny and related goal assessments more informed and the results more relevant, the representation of diverse knowledges and perspectives enabled shared learning through exchange of ideas, insights, and reflections. Many pointed to the value of listening to each other’s different perspectives on how the strategy could affect progress toward the SDGs.

Participants had a unanimous view that the 2030 Compass can be applied universally for strategic sustainability assessments of any planned activity. Public sector organisations were often mentioned as an actor for which the participants thought the tool could be particularly relevant. This reflection should however be seen in light of the type of actors involved in the case studies, where three out of four cases involved public sector organisations. In earlier phases of the work with the compass tool, the business sector actors have been involved in case studies with similarly good results.

Participants' overall judgement was that the Agenda 2030 Compass represents a very valuable innovation for strategic sustainability assessments, with the functionality to highlight potential acupuncture points as a particularly novel and useful feature. These overwhelmingly positive reflections are illustrated in the below quotes (translated from the original Swedish):

"I have not seen anything better than this and the result is impressive considering the relatively limited time we spent using it."

"I think we could not have gained a similar result without this tool. I believe that this method and tool can be useful for many different types of companies and around many different issues."

8 Implementation of the results and future work

The successful results from the four case studies have laid the ground for further development of the 2030 Compass and for implementation of strategic assessments with new partner organisations.

Coordinated by Jernkontoret a joint platform for taking the 2030 Compass further has been formed involving SEI and the other 2030 Compass project partners. The work is organised as one of Jernkontoret's "Technical Areas".³⁰ Several of the organisations that were involved the case studies have expressed strong interest to continue working with the 2030 Compass to assess other strategies, either on consultancy basis or as a part of internal demand for strategic sustainability assessments.

A tool supported process such as the 2030 Compass needs continuous improvements and further research efforts to stay up to date with developments and to support new demands for strategic sustainability assessment. Key areas of future work include the following opportunities for research and development:

- *Better integration of MURAL and the 2030 Compass tool:* A more seamless function for switching between the two platforms would contribute toward a smoother workshop process. Information that is currently generated as sticky notes in MURAL contains valuable data points that could be very useful to store in a searchable data base structure within the 2030 Compass tool.

³⁰ Jernkontoret, 'TO 86 Agenda 2030 Compass'.

- *Scoring of max-min ranges instead of a fixed number on the +3 to -3 scale:* The workshop participants' individual assessment of how a strategy affects each of the SDGs would more naturally be done on a max-min scale that better reflects the fact that the strategy could have both more positive and more negative impacts on different aspects of the SDG. The data structure underlying the 2030 Compass tool provides for max-min assessments, so it is only a matter of developing the scoring interface.
- *Automatic generation of basic project reports:* Since the full analysis is carried out through the 2030 Compass process and all input is documented either in the 2030 Compass tool or on the project Mural boards, it should be possible to develop an automatic or semi-automated basic report generator that contains key conclusions as well as all background information and analysis of synergies, trade-offs and suggestions for improvements.
- *Development of a "desktop" single user version of the process and tool:* While the workshop-based process allows for dialogue and a collective assessment of impacts and opportunities for improvements, a single user desktop version could be developed allowing for a more rapid assessment. A single user version would likely require an experienced operator that is trained in using the tool and some sort of quality assurance through the possibility to flag questions that could be followed up with a larger group. This type of approach where single user assessments are nested within a larger process could be very useful in cases that involves assessment of portfolios or aggregate strategies that contains many different parts.
- *Further development of the Context Mapper:* Suggestion for further development of the Context Mapper has been presented in the WP2 report as well as in the Synthesis Report. However, from a WP5 perspective, and in reflection of the idea presented in the bullet above about a single user desktop version, a functionality for creating a "type country" from a typology of specific meta factors would be a very useful function. Such a typology could be based on socio-economic, governance and natural resource related meta factors that were identified by WP2 e.g. GNI per capita, political stability, agricultural land, fresh water, energy resources, etc.
- *Research on organisational outcomes of applying the 2030 Compass methodology:* With more 2030 Compass based strategic assessment projects being implemented follow interesting opportunities to draw experience based conclusions and generate assessments of synergies, trade-offs and suggestions for improvements from different project settings. *Ex post* studies on actual outcomes of 2030 Compass based projects represents another branch of possible research.
- *Using the 2030 Compass for other types of research:* Applying the 2030 Compass in other initiatives such as processes connected to science-based targets could be another interesting area of work. Similarly, the Compass process could be further developed to inform companies, municipalities, governments, and other actors work on annual reports for which a full sustainability disclosure is required.

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