SUSTAINABLE DEVELOPMENT GOALS

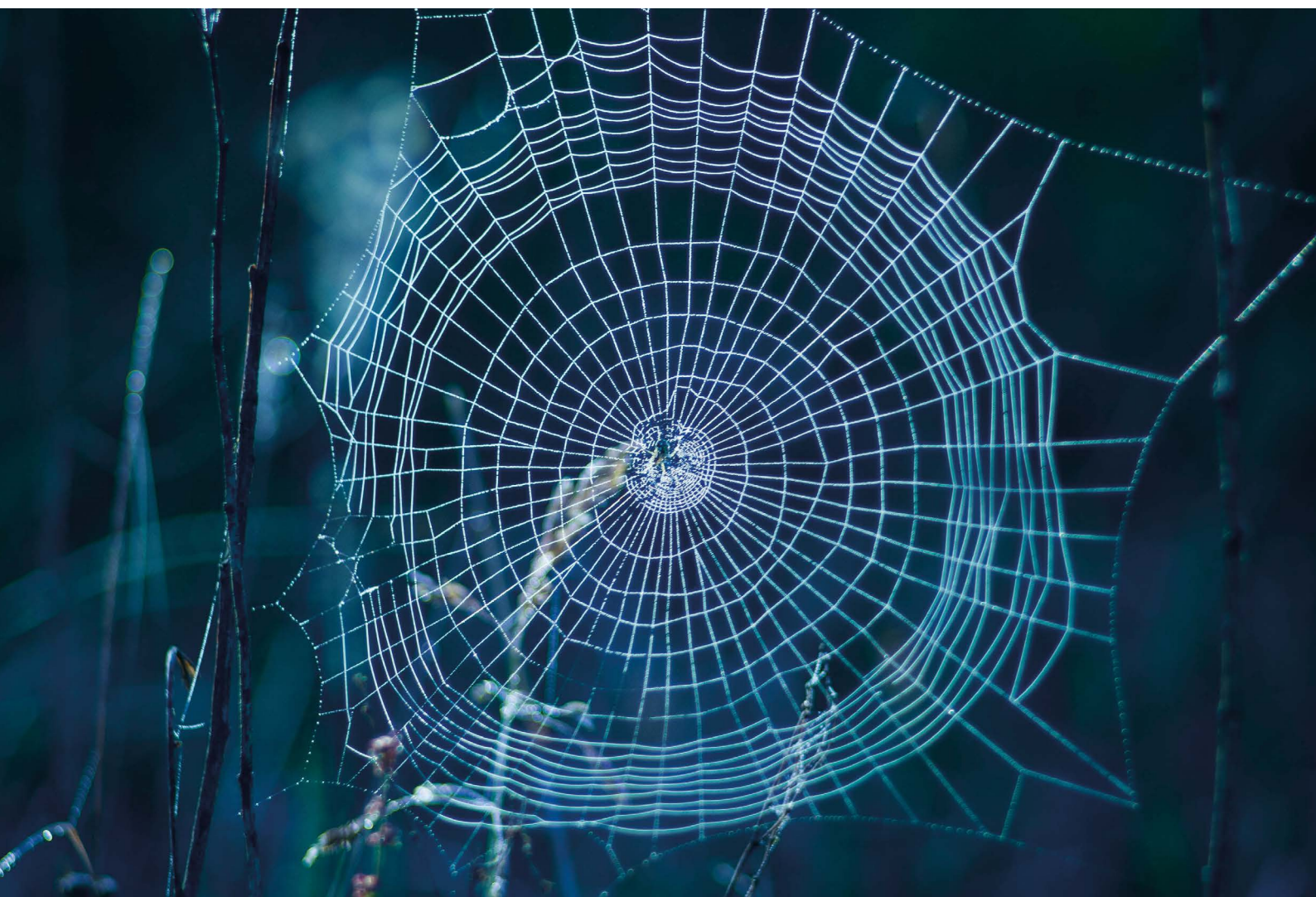# Breaking out of the confines: Shaping a coherent Swiss sustainability policy

The importance of tackling SDG interdependencies

SDSN Switzerland

Sustainable Development Solutions
Network Switzerland

Sustainable Development Solutions Network Switzerland

Sustainable Development Solutions Network (SDSN) Switzerland mobilizes universities, research centers, civil society organizations, business and other knowledge centers to create and implement transformative solutions to achieve the Agenda 2030 and Paris Agreement in Switzerland and beyond.

SDSN Switzerland delivers value to its members and partners around the following 3 objectives:

- Shape multi-stakeholder dialogue: Accelerate continuous exchange of ideas and experiences, and create thinking spaces for the scientific community, government, business and civil society to foster systemic solutions, build commitment and mobilize action.

- Foster transformative solutions: Harness scientific and transdisciplinary knowledge to generate new evidence-based solutions, integrated policies and systemic change, including through joint learning journeys.

- Advise decision-makers: Offer evidence-based advice to decision-makers in politics, business and society to fill policy gaps and motivate normative change through innovative processes around the science-policy interface.

SDSN Switzerland was founded in April 2017 and officially launched on February 15, 2018. As of May 2019, it has 35 members. SDSN Switzerland is a member of the international SDSN, launched in 2012 by UN Secretary-General Ban Ki-moon. The UN SDSN has 900 member organisations from 110 countries, as well as 31 national and regional SDSN branches.

Contents

1. From the country report to the next Sustainable Development Strategy

In July 2018, Switzerland presented its first voluntary national review report to the UN in New York.[1] This report detailes how the country will implement Agenda 2030 for sustainable development according to the 17 Sustainable Development Goals (SDGs). The country report was based on a detailed inventory conducted by the Swiss federal administration.[2]

The Federal Council is currently drafting the 2020-2030 Sustainable Development Strategy, based on the 2018 country report, to align with the Agenda 2030. The strategy will address the challenges identified in the country report, link them with sectoral policy instruments, and set priorities for implementation.

Interdependencies between the SDGs

Developing a Sustainable Development Strategy for 2020-2030 calls for a new kind of cross-sectoral policy cooperation. The 17 SDGs and their 169 targets are closely linked. This means that the goals can only be achieved if other goals progress simultaneously – for example, clean energies (SDG 7) make an important contribution to climate protection (SDG 13) and the preservation of ecosystems (SDG 15). Conversely, if one goal worsens (e.g. if social inequalities increase, SDG 10), it could negatively impact the achievement of other goals (e.g. increasing poverty, SDG 1, and increasing conflicts, SDG 16).

Considering interdependencies between the SDGs is a response to the earlier Millennium Development Goals (2000-2015), which were mainly directed at developing countries and were weakened by isolated sector-specific approaches to implementing them. In implementing Agenda 2030, national policies should take such interactions between the SDGs into account accordingly.

New approaches for the Sustainable Development Strategy

What would cross-sectoral policy mean in concrete terms for Switzerland? When formulating the new Sustainable Development Strategy, measures must be identified that generate as many synergies as possible between individual sectoral policies. A coordinated approach would save costs and be more effective than developing and implementing individualmeasures for each goal. Diverging interests, especially between sectoral policies must be disclosed, however. If conflicting objectives arise, it must be possible to negotiate or reach a consensus.

The following questions arise when formulating a comprehensive and coherent Sustainable Development Strategy:
- How to link current sector-oriented policy areas in accordance with the Agenda 2030?
- What synergies could arise?
- Where do measures in one policy area hinder the achievement of objectives in other areas?
- How can Swiss administration effectively support the implementation of Agenda 2030 – especially in cooperation with other administrative units, cantonal and municipal authorities, and business, science and civil society actors?

In this report, SDSN Switzerland addresses such important questions with a focus on achieving the SDGs by 2030. We present initial solutions for Switzerland and corresponding recommendations for action for the Swiss Federal Council and Parliament.

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[1] Switzerland implements the 2030 Agenda for Sustainable Development: Switzerland's Country Report 2018 https://sustainabledevelopment. un.org/content/documents/20152Country_Report_Switzerland_2018_web.pdf

[2] Switzerland implements the 2030 Agenda for Sustainable Development: Baseline assessment of Switzerland serving as basis for the country report 2018 https://www.are.admin.ch/dam/are/en/dokumente/nachhaltige_entwicklung/publikationen/bestandsaufnahme-der-schweiz-als-grundlage-fur-den-landerbericht-2018.pdf.download.pdf/Agenda%202030_Baseline%20assessment%20as%20basis%20for%20the%20country%20report_2018_20180620.pdf

2. Priority areas for action

Including non-state actors

As part of the preparation of Switzerland's Country Report 2018, the Federal Administration conducted a wide-ranging online survey among non-state actors in the summer of 2017. The survey involved 167 organisations from the following stakeholder groups: civil-society organisations (33), private-sector organisations (41), environmental organisations (22), social organisations (46), scientific institutions (18), and public-sector organisations (7).[3]

Identifying priority targets

SDSN Switzerland evaluated the responses of the 167 organisations and prioritized the targets that organisations considered most important: either by at least 20 per cent of all organisations; or by at least 40 per cent of the organisations within a single stakeholder group.[4] The evaluations revealed a total of 24 priority targets (see Fig. 1 and Box 1 on page 7).[5]

Figure 1: Priority targets for non-state actors
Source: the Swiss Federal Administration's Online survey taking stock of Agenda 2030; evaluations from SDSN Switzerland

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[3]   The Federal Administration categorized the participating organisations into groups. SDSN Switzerland validated these categorizations in the context of this report and implemented minor changes.

[4]   The public sector is excluded from the evaluation of the priority targets by stakeholder group because of the small size of responses in this category (n=7). The public sector is included in the 167 organisations for the evaluation of the priority targets (Fig. 1).

[5]   For a detailed overview of the priority targets, see the glossary on pages 16-18.
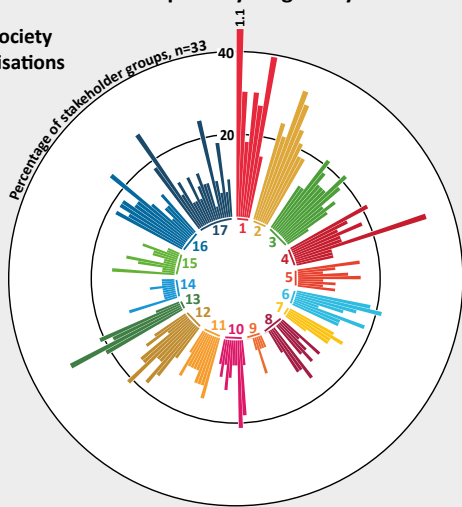
Eight priority areas for action

The 24 priority targets can be grouped into the following eight clusters or priority policy areas for action. Consequently, the interaction matrix is based on these 24 priority targets and eight priority areas. The matrix provides the framework for analyzing SDG interactions in this study (cf. Chapter 3).
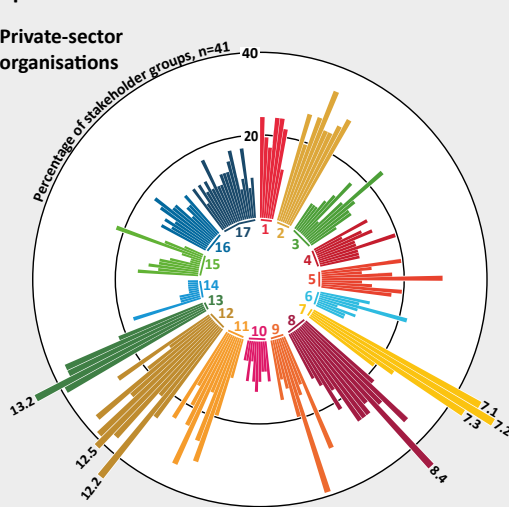
1 **Poverty reduction and global responsibility** (targets 1.1, 1.2, 1.4, 1.a): Civil-society and social organisations rated these targets as particularly important. Several groups highlighted the need for measures to support people experiencing poverty and reduce social disparities in Switzerland. Additionally, Switzerland should fulfil its constitutional mandate "to alleviate need and poverty in the world" (Article 54).

2 **Sustainable food systems** (targets 2.3, 2.4): The transformation towards a sustainable food system in Switzerland (where 50 per cent of food is imported), and worldwide, is a central concern for nearly all stakeholder groups (civil-society organisations, environmental organisations, scientific institutions and private-sector organisations). Improving product quality and income should be targeted, particularly for small-scale farming in developing countries (2.3).

3
6 **Environmental pollution** (targets 3.9, 6.3): Environmental organisations in particular pointed out the dangers and consequences of chemical inputs (e.g. pesticides, ammonia and antibiotics) and impurities (e.g. microparticles) for humans and ecosystems, especially in water and soil.

4 **Education for sustainable development** (target 4.7): Civil-society and environmental organisations and scientific institutions in particular consider efforts in education for sustainable development to be insufficient. Coordination across all three levels of government and between the cantons is needed in addition to creating supporting programmes in the university system.

7 **Sustainable energy systems** (targets 7.1-7.3): Switzerland's future energy supply is a central concern for private-sector and environmental organisations, which sometimes have diverging views. The central question regarding sustainable energy systems is whether the state should use smart incentive systems to promote renewable energies (7.2) and energy efficiency measures (7.3), or whether the objectives of the energy strategy can be achieved via the market.

8
12 **Green growth and circular economy** (targets 8.4, 12.2, 12.5, 12.6): In particular, private-sector and environmental organisations would like to see improved resource efficiency and a stronger decoupling of economic growth from increasing environmental destruction (target 8.4). There is broad acceptance for measures that strengthen the efficiency of resource consumption—both in environmental resource extraction and in the reduction of waste (12.2, 12.5). Companies should refocus their value chains to prioritize sustainability (12.6).

13 **Climate protection** (targets 13.2, 13.3): As with energy supply, diverging views are emerging in the areas of climate change and climate protection. Civil-society and environmental organisations claim that the objectives of the Confederation to improve climate protection (13.2) and increase sensitivity to climate change (13.3) are insufficient. A number of private-sector organisations, however, argue in favour of weakening objectives or reducing regulatory interventions.

15 **Protection and sustainable use of ecosystems** (targets 15.1-15.5, 15.a): Environmental organisations in particular, but also to some extent scientific institutions and civil-society organisations, value the protection, regeneration and sustainable use of ecosystems (waters, forests, mountain ecosystems, wet and dry areas, soils) as priorities and demand additional financial resources for conservation. They also note concern about the loss of biodiversity (especially for plants, insects, birds and mammals).

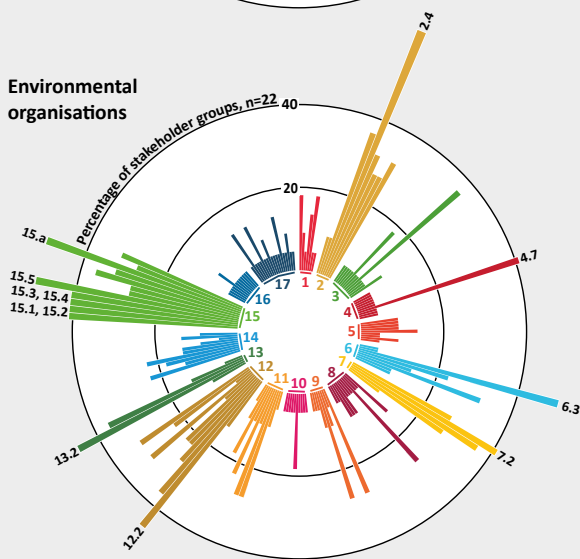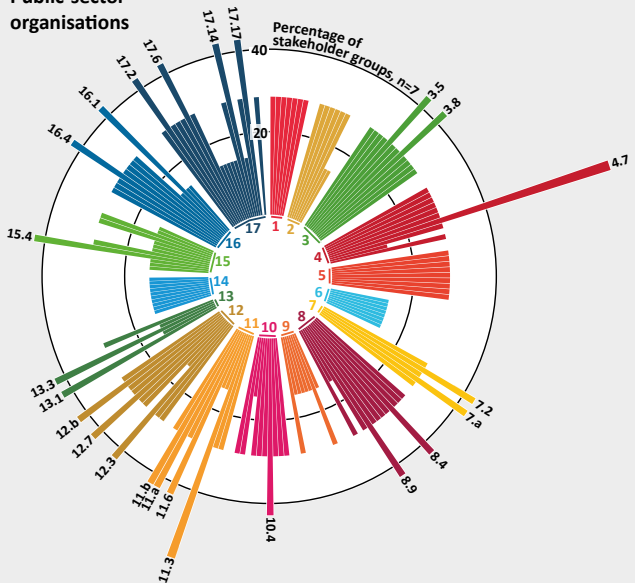**Box 1 | Assessment of priority targets by stakeholder groups**
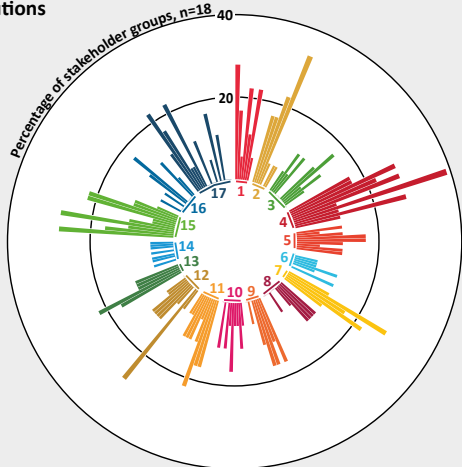
Figure 2: Assessment of the priority targets according to individual stakeholder groups.
Source: Online consultation of the Federal Administration on the inventory of Agenda 2030; evaluations SDSN Switzerland

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3. Synergies and conflicting objectives between the SDG targets

Systemic relationships of the SDGs

Agenda 2030, which incorporates the 17 SDGs, establishes a vision for global sustainable development that is meant to represent more than the sum of the individual SDGs. The implementation of the 169 targets will inevitably lead to both negative and positive impacts between them.

To effectively implement the Agenda 2030 in Switzerland, the following questions arise: How can today's governmental sectoral policies be effectively linked in order to align with the Agenda 2030? Where do synergies between policy areas arise? Where do measures implemented in one policy area hinder the achievement of objectives in other areas? In order to find answers to these systemic questions, SDSN Switzerland analysed the interdependencies between the 24 priority targets and the eight political areas for action described above.

Methodological approach

SDSN Switzerland based the first step of its analysis on the evaluation system for SDG interdependencies by Nilsson et al. (2016, cf. Fig. 3).[6] The more a target contributed to achieving the goals of a political area of action in the sense of Agenda 2030, the higher its score (+1 to +3). Conversely, conflicting goals between individual subject areas were rated with negative scores (-1 to -3). A score of 0 indicates either no connection between the objectives or that the potential synergies and conflicts cancel each other out.

The expert assessments were then compiled into an interaction matrix (cf. Fig. 4), modelled after the 2017 matrix by Weitz et al. that set implementation priorities in Sweden.[7]

GOALS SCORING
The influence of one Sustainable Development Goal or target on another can be summerized with this simple scale.

Interaction	Name	Explanation	Example
+3	Indivisible	Inextricably linked to the achievement of another goal.	Ending all forms of discrimination against women and girls is indivisible from ensuring women's full and effective participation and equal opportunities for leadership.
+2	Reinforcing	Aids the achievement of another goal.	Providing access to electricity reinforces water-pumping and irrigation systems. Strengthening the capacity to adapt to climate-related hazards reduces losses caused by disasters.
+1	Enabling	Creates conditions that further another goal.	Providing electricity access in rural homes enables education, because it makes it possible to do homework at night with electric lighting.
0	Consistent	No significant positive or negative interactions.	Ensuring education for all does not interact significantly with infrastructure development or conservation of ocean ecosystems.
−1	Constraining	Limits options on another goal.	Improved water efficiency can constrain agricultural irrigation. Reducing climate change can constrain the options for energy access.
−2	Counteracting	Clashes with another goal.	Boosting consumption for growth can counteract waste reduction and climate mitigation.
−3	Cancelling	Makes it impossible to reach another goal.	Fully ensuring public transparency and democratic accountability cannot be combined with national-security goals. Full protection of natural reserves excludes public access for recreation.

Figure 3: point scale for evaluating the interactions between SDGs and SDG targets.
Source: Nilsson et al. (2016)

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[6] Nilsson et al. (2016). Map the interactions between Sustainable Development Goals. https://doi.org/10.1038/534320a
    While the 24 priority targets were determined based on the stakeholder's assessment of the federal government's objectives in the Swiss context (see Chapter 2), the methodology of Nilsson et al. refers to the global targets (see Glossary). These slightly different formulation of targets has no significant influence on the analysis of the interdependencies.

[7] Weitz et al. (2017). Towards systemic and contextual priority setting for implementing the 2030 Agenda. https://link.springer.com/article/10.1007/s11625-017-0470-0

Concretely, SDSN Switzerland evaluated each linkage for how progress in each priority target could affect progress in the priority area for action (positive / blue = synergies; negative / red = conflicting goals; zero / white = no influence).[8] Thus, the SDSN analysis shows the impact on eight priority areas for action identified for the Swiss context – for example, on poverty reduction or on the transition to a sustainable Swiss food system. Consequently, the global target was assessed for those objectives for which Switzerland has no target definition of its own. For practical reasons, the interactions were evaluated only in one direction: the influence of the 24 priority targets on the eight areas for action, not vice versa.

Interaction matrix for Switzerland

The evaluation of the interdependencies between Switzerland's priority targets and priority areas for action reveals that in the implementation of Agenda 2030, the synergies (co-benefits, displayed in blue) clearly outweigh the conflicting goals (trade-offs, displayed in red) (cf. Fig. 4).

For Switzerland's Sustainable Development Strategy, this evaluation indicates that numerous political fields of action or sectoral policies can be profitably linked to create win-win strategies and measures.[9] To illustrate, we highlight some of the areas for action with the highest score of +3:

- Without expanding renewable energies (target 7.2) such as hydropower, photovoltaics, wind power or biomass, Switzerland will be unlikely to achieve the Paris climate targets. This strong dependency should therefore be addressed in a total revision of the CO_2 Act.

- Measures to increase energy efficiency (7.3), especially in the mobility, housing and construction sectors, but also in the areas of digitisation and automation, are crucial for the green and circular economy.

- Effective environmental protection can only be implemented alongside substantial efforts to reduce waste, such as reducing microplastics in bodies of water (12.5).

Priority targets (influencers)	Priority areas for action (influenced)								
	Poverty reduction & global responsibility	Sustainable food systems	Environmental pollution	Education for Sustainable Development	Sustainable energy systems	Green growth & the circular economy	Climate protection	Protection & sustainable use of ecosystems	Sum per target
1.1		0	0	0	1	1	-1	0	1
1.2		2	0	2	2	2	-1	1	8
1.4		1	0	1	1	1	0	1	5
1.a		0	0	0	0	1	-1	0	0
2.3	0		-2	1	-1	-1	-1	-3	-7
2.4	1		2	1	0	2	2	2	10
3.9	0	2		0	0	2	1	2	7
6.3	1	2		0	0	3	0	2	8
4.7	2	1	1		1	2	1	1	9
7.1	2	0	-1	0		-1	-2	-1	-3
7.2	0	1	2	0		2	3	0	8
7.3	1	1	1	0		3	2	1	9
8.4	-1	2	1	0	1		2	2	7
12.2	1	3	2	0	1		2	2	11
12.5	0	1	3	0	2		2	2	10
12.6	0	1	1	1	1		2	1	7
13.2	-1	2	2	0	2	2		2	9
13.3	0	1	1	2	1	1		1	7
15.1	0	1	2	1	1	1	2		8
15.2	0	0	1	1	1	1	2		6
15.3	0	2	1	0	0	1	2		6
15.4	0	1	1	1	-1	1	1		4
15.5	0	2	1	1	-1	1	1		5
15.a	-1	1	2	1	0	1	1		5

Figure 4: Interaction matrix between the priority targets and areas for action for Switzerland.
Source: Evaluations from SDSN Switzerland

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[8]   The authors M. Bergöö, T. Breu and C. Ott conducted the expert assessments.

- The sustainable management and efficient use of natural resources (12.2) is the basis for a sustainable food system in Switzerland. This is integrated in the environmental objectives for agriculture and is currently being discussed in agricultural policy for 2022-2025.

When assessing these interdependencies, a number of conflicting objectives must be considered for formulating effective measures in the Sustainable Development Strategy's action plan. Where appropriate, the Sustainable Development Strategy should propose possible approaches for negotiating conflicts of interest or reaching consensus (see Recommendation 2 on page 14).

- The strongest conflicting targets (-3) are in doubling agricultural productivity and income (target 2.3) and protecting ecosystems in Switzerland. Due to the already high productivity of Swiss agricultural land, a substantial increase in production (which would require increases in pesticides, fertilisers, livestock numbers, etc.) would risk overstressing the ecosystem, resulting in decreased biodiversity, increased nitrogen in water and soils, and more. Additional income for producers is, of course, welcomed. However, the question arises of how each farm invests this money – for higher wages, production inputs (such as machinery and fertilisers), infrastructure expansion, or conversion to more sustainable production methods. Such conflicting objectives of agricultural production and ecosystem protection are at the centre of the debates about reorienting Swiss agricultural policy.

- Two conflicting goals lead us to a moral dilemma: reducing global poverty (e.g. in the context of the currently discussed Dispatch on Switzerland's International Cooperation 2021-2024, target 1.1) and creating effective climate protection. It is to be expected that CO_2 emissions per capita, for example in India, will rise in proportion to higher incomes (although in absolute terms, those emissions are far below Switzerland's per capita levels). This would also make it more difficult to achieve the Paris climate targets in Switzerland. In Switzerland, mobility needs are additionally expected to increase with income (1.2). At the same time, lower income groups are disproportionately affected by taxes (13.2), as is discussed in connection with the implementation of the Paris Agreement.

- Access to affordable energy, as required by target 7.1, tends to promote over-consumption that damages the environment and the climate. Additionally, favourable energy prices promote inefficient resource use, which works against the goals of a circular economy.

Possible prioritisation of targets

The interaction matrix provides an additional evaluation (see Fig. 5): the sum of each line shows the net influence of each target. The higher the number, the higher the target's synergy potential with other policy areas. Conversely, the lower the number, the higher the target's conflict potential with other policy areas.

Targets with synergy potential			Targets with conflict potential		
Target	**Points**		**Target**	**Points**	
12.2	11	Sustainable use of natural resources	**2.3**	-7	Doubling agricultural productivity and income
12.5	10	Waste reduction	**7.1**	-3	Access to affordable energy
2.4	10	Sustainable food production systemsl	**1.a**	0	Financial contributions to global poverty reduction
13.2	9	Climate protection measures	**1.1**	1	Reduction of extreme global poverty
7.3	9	Doubling energy efficiency			
4.7	9	Education for Sustainable Development			
1.2	8	Poverty reduction (based on national definitions of poverty)			
7.2	8	Expansion of renewable energies			
15.1	8	Sustainable use of water ecosystems			
6.3	8	Improving water quality			

Figure 5: Ranking of targets with the greatest synergy potential or conflict potential for Switzerland.
Source: Evaluations SDSN Switzerland

This ranking list can give an indication of which measures or targets could get higher priority in the Sustainable Development Strategy. Whether or not these targets actually promise faster progress in other policy areas will have to be assessed on a case-by-case basis.

Box 2 | Quantitative interaction analysis based on MONET data

In addition to the interaction analysis (Chapter 3), SDSN Switzerland carried out a quantitative interaction analysis of the 24 priority targets based on the Swiss Federal Statistical Office's monitoring system for Agenda 2030 (MONET 2030). This analysis illustrates that purely quantitative analyses of the interactions between the SDGs in the Swiss context are incomplete.

Methodological approach

For this analysis, those MONET indicators were selected for the 24 priority targets for which at least four data entries are available in the period 2000-2016. This results in 19 indicators which monitor the implementation of 13 targets (see right column in Fig. 6). The analysis was carried out according to the approach used in the global study by Pradhan et al. (2017) using a Spearman rank correlation analysis.[9] This correlation coefficient calculates

Figure 6: Correlations (synergies and conflicting goals) between the SDG targets for Switzerland, calculated using a Spearman rank correlation analysis.
Source: Swiss Federal Statistical Office MONET indicator system. Evaluations by SDSN Switzerland, based on Pradhan et al. (2017)

Examples for interpreting the figure

Red fields = potential conflicting objectives:
The total amount of municipal waste generated (target 12.5) typically correlates negatively. This may indicate that conflicting objectives with other targets (e.g. reduction of energy consumption, target 7.3) may emerge if the objective of reducing waste is achieved.

Green fields = potential synergies:
The material footprint (12.2) per person positively correlates with particulate matter concentration (3.9). This indicates that the target of reducing particulate matter concentration could be linked with achieving the target of reducing the material footprint per person.

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9   Pradhan et al. (2017). A Systematic Study of Sustainable Development Goal (SDG) Interactions. https://agupubs.onlinelibrary.wiley.com/doi/epdf/10.1002/2017EF000632

the strength of the interaction of two variables. While positive correlations (correlation coefficient > 0.6; green fields) show synergy potentials in the implementation of Agenda 2030, negative correlations (correlation coefficient < -0.6; red fields) indicate possible conflicting objectives (cf. Fig. 6). To avoid overinterpreting the correlation coefficient, values between -0.6 and 0.6 are not classified (yellow fields). No entry (transparent / not coloured) means that the defined significance value (p-value < 0.1) was not reached, and thus no relationship can be established between the targets.

What conclusions can be drawn from the quantitative analysis of the interactions?

• **Data situation:** The 85 MONET 2030 indicators of the Swiss Federal Statistical Office cover part of the globally agreed 232 indicators for monitoring the 169 targets.[10] For some areas, such as "Education for Sustainable Development" (target 4.7), no indicators have yet been defined in either the global or the Swiss monitoring system. Or, in addition to the lack of footprint indicators, there is a lack of more far-reaching data measuring Switzerland's effects abroad, for example on the basis of financial flows.

• **Systemic connections between SDGs:** This study's analysis according to Pradhan et al. (2017) shows that this quantitative methodology can only be applied to a limited extent at the country level. The currently available data and data quality in Switzerland are not sufficient for carrying out meaningful analyses. Additionally, the methodology merely represents correlations rather than causal conclusions that could inform policy about appropriate measures. It is difficult to rule out even false correlations on a country-by-country basis when using this methodology. In order to obtain more reliability, the correlation analysis should therefore be supplemented with a qualitative evaluation method (cf. the interaction analysis in Chapter 3).

• **Indicator systems:** The extent to which indicator systems can be used to identify synergies and conflicting objectives should be questioned. If applying such calculations for specific contexts, the careful consideration of using absolute or relative indicators is necessary. For example: when comparing the indicator "material footprint" (domestic raw material consumption, target 8.4) with the indicator "material footprint per person" (12.2a), these indicators correlate in the opposite directions with other indicators. Concretely, the indicator "fine dust concentration" (3.9) correlates negatively (conflict of objectives) with 8.4, but positively with 12.2a (synergy).

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[10]   List of SDG indicators (United Nations Statistical Office) https://unstats.un.org/sdgs/indicators/indicators-list

4. Recommendations for action for the Sustainable Development Strategy

Analysing the interactions between and classifications of the SDGs while keeping Switzerland's long-term sustainability policy in mind is a complex undertaking. Most of the policy areas are complicated (cf. Fig. 7) or involve tricky, *'wicked'* problems like climate change, biodiversity loss, sustainable food systems, poverty reduction, responsible entrepreneurship and energy system transformation. These topics are influenced by many factors in a constantly changing environment. Knowledge on interactions is still low. Moreover, solution strategies are for the most part untested and are often socially and politically unpopular.

Identifying and tackling these wicked problems must therefore be a joint priority for citizens and our partners abroad (because many challenges can only be solved in a global context) to ensure a sustainable future for Switzerland. The efforts of politics, science, business and civil society to date are insufficient. All actors have jointly to design and pursue transformation pathways for achieving the SDGs by 2030.

The next Sustainable Development Strategy, and thus legislative planning for 2020-2023, offers an important framework for this societal task. SDSN Switzerland has therefore formulated three recommendations for creating prerequisites for the development of transformation pathways. In implementing the recommendations, the Federal Council (for setting the political course), Parliament (for legislation), and the "Agenda 2030 management body" (created in 2019 for coordinating departments and agencies) all play key roles.
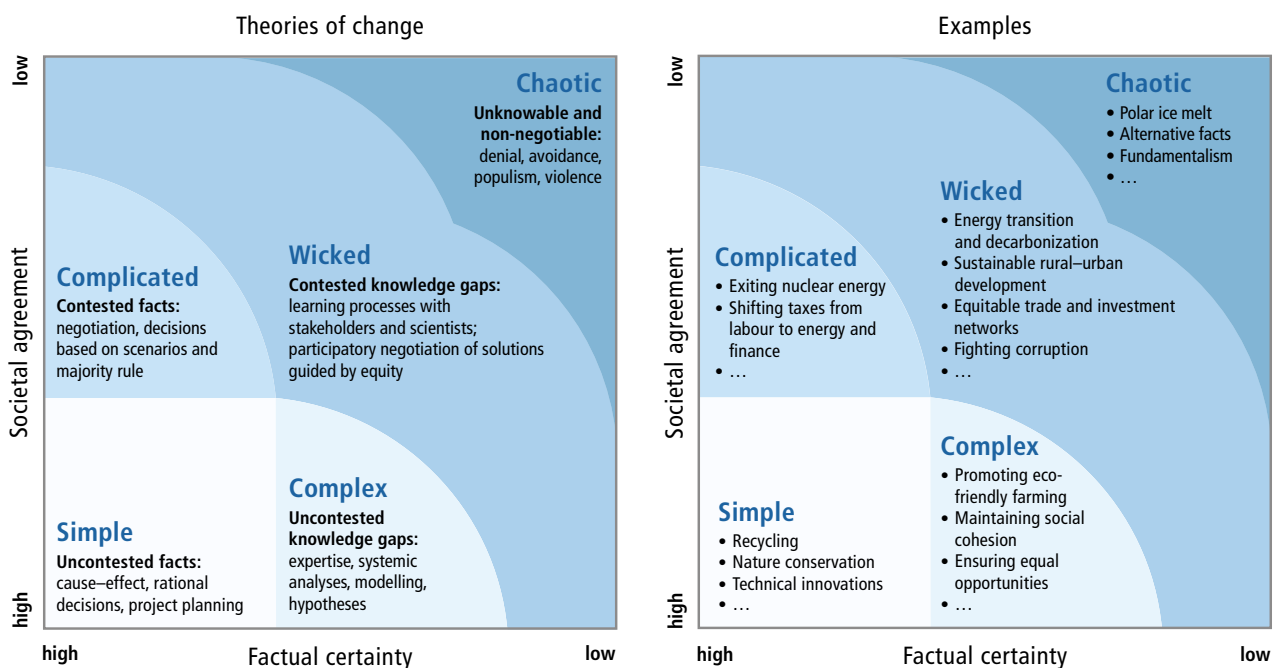

Figure 7: The interplay between factual certainty and societal agreement influences how we approach problems and what scope we see for political action.
Source: Messerli P., Bieri S., adapted from "Can we shape the future? Agenda 2030 as an impulse for Switzerland's ability to act", in: Federal Chancellery. 2018, Switzerland 2030, La Suisse 2030, La Svizzera 2030; inspired by Stacey RD. 1996 Strategic Management and Organisational Dynamics, 2nd edition, London: Pitman.

Recommendation 1

Invest in knowledge and concepts about interactions

Little research has been conducted to date on tthe potential for synergies and possible conflicts of objectives between individual sectoral policies in Switzerland and the impact of Swiss policy abroad. Agenda 2030 acknowledges these interactions in one overarching system for the first time. The Federal Council recognises these interrelationships in principle.[11] It does not, however, make additional funds available for the development of transformation knowledge, nor for the necessary research to develop that knowledge – in particular trans- and interdisciplinary research.[12]

The European Union and countries such as Germany, the Netherlands, Sweden and Great Britain are significantly increasing their subsidies for sustainability research and implementation. Appropriate political guidelines emerge.[13] Renowned sustainability researchers also propose an SDG interactions knowledge platform to fill gaps in knowledge about interdependencies at the global, national and sub-national levels, to initiate transformative research accordingly, and to support actors in disentangling evidence-based policy priorities (such as empirical studies and best practices).[14]

Recommendations

The Federal Council and Parliament should strengthen inter- and transdisciplinary research and education for sustainable development as an independent and transformative discipline open to the Swiss national research funding schemes. Funding schemes, including the respective research budgets of individual federal offices, should be coordinated. Activities should be coordinated and centralised endowed with significantly more resources.

Recommendation 2

Develop solution-oriented partnerships within and outside the Federal Administration

Systematically compiling and revealing links between individual SDGs can bring decision makers from different departments and federal offices together, enabling them to identify synergies and conflicts of interest between sector-oriented policy fields and to create priority measures. The Swiss Confederation is aware of several processes that promote policy coherence – such as agency consultation, the Federal Council's co-reporting procedure or the (rarely used) sustainability assessment. However, these processes often do not focus on the joint development of political strategies or action plans. Rather, additional inputs and perspectives are integrated into already developed policies. Policy coherence is often overlooked as an effective instrument for efficiently using resources.

Recommendations

The newly created Agenda 2030 Steering Committee should create conditions and formats for improved cooperation between federal departments and agencies to create more coherent strategies and better measures for implementing Agenda 2030. The steering committee should seek increased cooperation between cantonal and municipal, science, business and civil society actors.

For example, so-called living and social labs offer a structured frame for developing and testing solution strategies for societal challenges. Living labs also create the desired effect of involving the actors in a learning process that focuses on later implementation of the political and social strategies concerned from the outset.

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[11]   The Federal Council response from 30.11.2018 to the debate on "Agenda 2030 as a frame of reference for Swiss domestic and foreign policy".

[12]   Cf. the Federal Council response from 21.11.2018 to the debate on "Research and innovation for the implementation of sustainable development goals in Switzerland".

[13]   Within the framework of Horizon Europe 2021-2027, the European Union is providing more than 50 billion euro for research about social challenges. https://ec.europa.eu/commission/sites/beta-political/fi- les/budget-may2018-research-innovation_en.pdf

[14]   Nilsson et al. (2018). Mapping interactions between the sustainable development goals: lessons learned and ways forward. https://link.springer.com/article/10.1007/s11625-018-0604-z

   The researchers conclude that scientific evidence on interdependencies is still limited, and that specific evaluations must be carried out according to country context (geographical location, availability of natural resources, available technologies, institutional structure). Few empirical studies on the effects of interdependencies on concrete policies have been carried out to date.

Recommendation ③

Review and expand the indicator system for sustainable development

The quantitative interaction analysis (see Box 2) has shown that the monitoring system for Agenda 2030 (MONET 2030) does not do justice to the complexity of Agenda 2030, particularly not for analysis purposes. The publicly available indicators and data do not adequately cover all targets relevant for Switzerland. In some cases, complete, up-to-date and high-resolution data is lacking. Better data is important for evaluating the interdependencies between sectoral policies and for formulating evidence-based statements on promising interventions.[15]

Recommendations
To enable scientists to better explore the links between different policy areas (see Recommendation 1), the system of indicators for sustainable development should be rapidly expanded in cooperation with science, business and civil society actors and supplemented with multidimensional benchmarks over various time periods. This system should include indicators for measuring Switzerland's transboundary impact.

In addition, SDSN Switzerland recommends that, the Federal Council supplement the options for action for implementing Agenda 2030, in particular the corresponding indicators, with ambitious target values. Further, it suggests to secure the financing of the monitoring mechanisms (including expansion) after 2020.

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[15]   For example, target 2.4 "Sustainable food production systems" is covered by indicators for nitrogen balance and greenhouse gas emissions from agriculture; however, indicators on agricultural methods that contribute to the preservation of ecosystems (e.g. the surface area cultivated by organic farming) are lacking.

5. Glossary

The 17 Sustainable Development Goals

1 NO POVERTY	**2 ZERO HUNGER**	**3 GOOD HEALTH AND WELL-BEING**
4 QUALITY EDUCATION	**5 GENDER EQUALITY**	**6 CLEAN WATER AND SANITATION**
7 AFFORDABLE AND CLEAN ENERGY	**8 DECENT WORK AND ECONOMIC GROWTH**	**9 INDUSTRY, INNOVATION AND INFRASTRUCTURE**
10 REDUCED INEQUALITIES	**11 SUSTAINABLE CITIES AND COMMUNITIES**	**12 RESPONSIBLE CONSUMPTION AND PRODUCTION**
13 CLIMATE ACTION	**14 LIFE BELOW WATER**	**15 LIFE ON LAND**
16 PEACE, JUSTICE AND STRONG INSTITUTIONS	**17 PARTNERSHIPS FOR THE GOALS**	**SUSTAINABLE DEVELOPMENT GOALS**

Priority Targets of the Agenda 2030 identified for Switzerland

1.1	Eliminate extreme poverty – currently defined as the proportion of people living on less than 1.25 dollars per day – for all people around the world by 2030.
1.2	Reduce the proportion of men, women and children of all ages living in all dimensions of poverty (as defined by national definitions) by at least half by 2030.
1.4	Ensure that all men and women, especially the poor and vulnerable, have equal rights to economic resources and access to basic services, land and property ownership, inheritance, natural resources, relevant new technologies and financial services (including microfinance) by 2030.
1.a	Ensure substantial mobilisation of resources from a variety of sources, including through improved development cooperation, to provide developing countries, and in particular the least developed countries, with sufficient and predictable resources to implement programmes and policies to end poverty in all its dimensions.
2.3	Double agricultural productivity and income for small food producers, especially women, indigenous peoples, family farmers, farmers who keep grazing livestock, and fishermen by 2030. Included would be the inclusion of secure and equitable access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value creation and non-agricultural employment.
2.4	Ensure the sustainability of food production systems by 2030 and apply resilient agricultural practices that increase productivity and yield, gradually improve land and soil quality, contribute to ecosystem conservation, and increase adaptability to climate change, extreme weather events, droughts, floods and other disasters.

3.9	Significantly reduce the number of deaths and illnesses caused by hazardous chemicals and polluted or contaminated air, water and soil by 2030.
4.7	Ensure that all students acquire the knowledge and skills necessary to promote sustainable development by 2030. This includes education for sustainable development and lifestyles, human rights, gender equality, a culture of peace and non-violence, world citizenship, and appreciation of cultural diversity and the contribution of culture to sustainable development.
6.3	Improve water quality by 2030 by reducing pollution, ending dumping, minimising the release of hazardous chemicals and substances, halving the proportion of untreated waste water, and significantly increasing water treatment and the safe reuse of waste water worldwide.
7.1	Ensure universal access to affordable, reliable and modern energy services by 2030.
7.2	Significantly increase the share of renewable energy in the global energy mix by 2030.
7.3	Double the global rate of energy efficiency by 2030.
8.4	Steadily improve global resource efficiency in consumption and production by 2030. This entails that developed countries take the lead to decouple economic growth from environmental degradation, in line with the 10-year programme framework for sustainable consumption and production.
12.2	Achieve sustainable management and efficient use of natural resources by 2030.
12.5	Significantly reduce waste generation by 2030 through prevention, reduction, recycling and reuse.
12.6	Encourage companies, especially large and transnational corporations, to adopt sustainable practices and to include sustainability information in their reporting.
13.2	Integrate climate protection measures into national policies, strategies and planning.
13.3	Improve education, awareness, and human and institutional capacity to mitigate climate change, adapt to climate change, reduce the impact of climate change, and provide early warnings of climate change impact.
15.1	By 2020, ensure the conservation, sustainable production and use of terrestrial and inland freshwater ecosystems and services (in particular forests, wetlands, mountains and arid areas) in accordance with obligations under international agreements.
15.2	By 2020, promote sustainable management of all types of forests, end deforestation, restore degraded forests and significantly increase forestation and reforestation globally.
15.3	By 2030, combat desertification, rehabilitate degraded areas and soils (including those affected by desertification, drought and flooding), and strive for a world in which land degradation is neutralised.

15.4	Ensure the conservation of mountain ecosystems and their biodiversity to strengthen their capacity to deliver essential benefits for sustainable development by 2030.
15.5	Take immediate and significant measures to reduce natural habitat degradation, halt biodiversity loss, protect endangered species, and prevent extinctions by 2020.
15.a	Procure and significantly increase financial funds for the conservation and sustainable use of biological diversity and ecosystems from all possible financial sources.

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