

Table 1. Synopsis of key findings from literature review

Text (Scopus FWCI, 11 Nov 2020)	Reasons for Policy-Integration (Why?)	Objects of Policy-Integration (What?)	Modes of Policy-Integration (How?)
Nilsson et al. 2016 (56.08)	Policy coherence as one of the targets of the SDGs; Pursuing SDGs individually, in an isolated manner, might produce perverse outcomes; 2030 Agenda successful only if mutually reinforcing actions be taken and trade-offs minimised	SDGs (goals and targets) in their respective (national) context	Assessment of (positive and negative) interactions of SDGs and their targets, with the aim of building an evidence base to characterise goal interactions in their specific context; Building strategies across sectors for goals and targets with positive interactions, and setting up regulations and policies to address negative interactions
Waage et al. 2015 (36.68)	No clear reasons for policy integration given, but reference made to synergies and conflicts between SDGs that need to be addressed in terms of governance	SDGs with focus on entire SDG system; SDGs are further qualified by assigning them to three concentric layers marked by different typical interaction patterns and linked to different institutional delivery mechanisms: (a) well-being goals are linked to the nation state; (b) infrastructure goals are linked to decisions of transnational elites and experts; (c) goals concerning the natural environment are linked to intergovernmental conventions	SDGs ordered by systemic properties, implying an asymmetric integration mode of principled prioritisation; Infrastructure goals of central importance because of particularly strong (negative) impacts on well-being and natural environment goals
Stafford-Smith et al. 2017 (22.67)	Policy integration is necessary to avoid adverse interaction effects and unrealised synergies between different dimensions of sustainability, and to resolve conflicts between different policy objectives and means	Integration objects not clearly explicated; Focus on SDG-related policy activities linked to sectors, societal actors and countries: Policy integration as relating to policy activities (a) across sectors, (b) across societal actors, (c) between and among low, medium, and high-income countries; Additional focus on integration means in terms of analyses of integrative functions of means of implementation (finance, technology, capacity, trade and systemic issues)	No specific consideration of integration modes; Synergies and trade-offs as typical and relevant forms of interlinkages; Mode of integration formed in implementation process through means of implementation

Biermann et al. 2017 (22.55)	Policy Integration as one of five institutional conditions for turning SDGs into success stories; Integrated approach to governance indispensable due to three dimensions of sustainable development, and to avoid trade-offs and create synergies	Integration objects barely specified, but references to (a) three dimensions of sustainable development at all levels of sustainability governance, (b) fragmented sectoral policies, (c) the SDGs	Basic understanding of integration as consideration of interdependencies in terms of avoiding negative trade-offs and creating positive synergies; Governance through goals approach suggests that integration is to be defined in governance process
Singh et al. 2018 (20.74)	Due to the interdependencies in social-ecological systems, progress towards one goal may advance or impede the other goals; Understanding interactions between SDGs is necessary to prioritise effective and efficient policy options	SDGs (goals and targets); Focus on impacts of SDG 14 on other SDGs	Different dimensions to capture relationships between goals: (a) compatibility: trade-off vs. co-benefit vs. neutral; (b) requirement: prerequisite vs. options; (c) context: context-dependent vs. context-independent
Maes et al. 2019 (19.80)	Interrelations between SDGs and targets span all SDGs; Sustainable management of urban ecosystems requires consideration of other issues such as economic growth, equality or good governance	SDGs targets; here focus on urban ecosystem management	Consideration of relationships (synergies or trade-offs) between urban ecosystems with all 169 targets
Kroll et al. 2019 (17.73)	Understanding interactions between SDGs as a basis for defining meaningful policy priorities; Transforming trade-offs into synergies and creating a virtuous cycle of SDG progress	SDGs (goals and targets)	Consideration of mutual interactions between goals and targets (and their development) in terms of trade-offs, synergies and non-associations
Allen et al. 2019 (14.53)	Progress towards one target is linked to other targets through complex feedback loops; Analysis of interdependencies as part of a robust prioritisation process aimed at the definition of meaningful policy priorities	SDG targets	Understanding of systemic (positive and negative) interlinkages as part of a comprehensive process aimed at identifying policy priorities
Liu et al. 2018 (14.05)	Isolated treatment of interconnected problems has led to follow-up problems; Integrative nexus approaches have the potential to reduce negative surprises and promote integrated planning, management and governance	SDGs as well as governance sectors and actors related to them	Nexus approach serves to understand connections, synergies and trade-offs between SDGs and related sectors; Beyond benefits there are also costs of nexus approaches

Weitz et al. 2018 (13.57)	Taking into account the interactions between SDGs; More solid basis for prioritising policy efforts related to SDGs, in view of limited resources	SDG targets	Understanding and active use of mutual systemic interactions in the form of positive and negative side/rippling effects between targets; Reference to extensive mode of integration ('whole-of-government')
Nilsson et al. 2018 (12.36)	Addressing problems arising from policy fragmentation and siloed implementation; Reducing trade-offs and exploiting latent synergies; Enhancing policy effectiveness	SDGs (goals and targets) in their respective context	Different types of interactions: positive (co-benefits) and negative (trade-offs); May also result in winners and losers
Bowen et al. 2017 (11.76)	SDGs as a unified vision of economic development, environmental sustainability and social inclusion; Collective action dilemmas for the SDGs as a key barrier to SDG implementation	SDGs (goals and targets)	Nexus thinking helps conceptualise linkages between different SDGs, and to navigate trade-offs; Cooperation between actors across scales, in diverse contexts, and over time; Deliberation over trade-offs, while paying attention to justice, fairness and equity; Ensuring accountability of national governments and other actors in fulfilling agreed commitments
Bai et al. 2016 (10.25)	Integration is needed to avoid negative trade-offs and harness positive synergies	SDGs	Trade-offs and synergies
Le Blanc 2015 (9.88)	Tackling incoherent policies and adverse impacts between policies as main pitfalls of sustainable development	SDG targets as an integrated, yet uneven network of linkages between the goals	Mutual but unequal and selective interactions between SDGs lead to synergies and trade-offs
Barbier & Burgess 2017 (9.66)	Considering integrated nature of SDGs to realise sustainable development	SDGs, as representing different economic, social and environmental systems	Systemic consideration of mutual interactions between SDGs as basis for welfare-oriented optimisation of goal achievement through prioritisation
Allen et al. 2018 (8.73)	Integrated and systems approach to the SDGs is needed to ensure that interrelations between SDGs and targets are understood and managed; Transformative potential of the 2030 Agenda can only be achieved through adoption of reinforcing actions and minimisation of trade-offs	SDGs (goals and targets) at national level	Systems thinking and more elaborate analytical approaches for evidence-based policy-making; SDG implementation requires prioritisation of goals and targets to focus on a reduced set of highly interrelated priorities ('nexus')

Nerini et al. 2019 (7.94)	Negative impact of (here) climate change on the achievement of 72 targets across 16 SDGs; Enhancing synergies and avoiding trade-offs between climate action and the other SDGs	SDGs (goals and targets)	Connecting fragmented scientific disciplines and institutions; Policy-making across policy fields and silos
Boas et al. 2016 (7.85)	Different domains (e.g. water, energy and food) interconnected – they cannot be effectively resolved unless they are addressed as being interrelated and interdependent; Avoiding trade-offs and realising cross-sectoral benefits	SDGs (goals and targets) representing different (sub-) systems	Complex and mutual interconnections of goals in the form of thematic nexus issues
Biggeri et al. 2019 (7.56)	Pursuing a balanced and integrated set of SDGs is necessary condition for the success of the 2030 Agenda; Understanding the areas of synergies and trade-offs among goals and targets is critical for understanding how and to what extent realising, or failing to realise, one particular achievement may impact positively or negatively on other goals and targets	SDGs (goals, targets and indicators)	Focus on synergies and trade-offs; Consideration of heterogeneity within and between goals as well as across the economic, social and environmental dimensions of sustainable development
Scherer et al. 2018 (6.11)	Policy integration is needed because there are so many inevitable interactions between goals; Integrative policies can help converting trade-offs into synergies	SDGs, but rather as representations of broader social and environmental dimensions	Integration is mainly framed in terms of conflicts and synergies; Magnitude of interactions in different (country) contexts play an additional role
Collste et al. 2017 (5.97)	Policy integration is needed to overcome the silo approach that dominated the implementation of the Millennium Development Goals	SDGs and underlying system mechanisms	Elaboration of interactions between SDGs in terms of causal links
McCollum et al. 2018 (5.32)	Greater knowledge about and recognition of SDG interactions drives policy-makers toward socially desirable development pathways	SDG targets	Policy integration as knowledge integration, facilitated through institutional reforms (to overcome 'silo' approaches)