Assessing ES/NC policy invn for green economy: wireframe for a toolkit for practitioners

MS3.7

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IEEP

Ecosystem Science for Policy & Practice

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MS3.7 in the context of OPERAs

Milestone 3.7 is an integral part of the Deliverable “Towards a framework for assessing current level of and future opportunities for ES/NC integration at different levels of governance” (D3.3). It has also been developed in close cooperation with the work package 4 (WP4) and Deliverable “Policy needs and opportunities for operationalising the concept of ecosystem services” (D4.1).

MS3.7 outlines the foreseen wireframe for an operational toolkit for assessing the level of ES/NC integration into policy and governance. The basis for this wireframe are elaborated in further detail in D3.3. Together D3.3 and MS3.7 provides the starting point for the future development of a concrete and applicable assessment instrument that can be used to operationalise the concept of ecosystem services at different levels of governance.

The common assessment framework is foreseen to be further developed and tested in the context of some of the exemplars. Cooperation has already been established with the Scottish exemplar where the framework is being adopted to assess the integration of ecosystem services and natural capital into the policy framework at national level.

Wireframe for an operational toolkit for assessing the integration of ecosystem services across sectoral polices in the context of green economy

No	Chapter	Short description of the content	Comments
1	Introduction		
1.1	Ecosystem services and natural capital: introductory remarks	Introduction to ecosystem services and natural capital, how integrating these concepts / aspects into sectoral policies can help sustainability	
1.2	Toolkit: structure and content	Brief outline of the toolkit structure and content	
1.3	What is the toolkit for?	Description of overall objectives of the toolkit and the foreseen situations / stakeholder motivation for applying it.	Important to focus on both synergies from mainstreaming ecosystem services and natural capital and reduced trade-offs
1.4	Who is the toolkit for?	Description of the target audience	Identify the type and level of a stakeholder - as the toolkit can be applied at EU, Member State, regional and even city level.
1.5	Application of the toolkit	Description of how the toolkit should be applied	See Tables 1 and 2
2	Step 1: assessment of the current level of policy integration		
2.1	Setting the scene – objectives, policy areas and governance	Setting the overall objectives for the assessment and, based on the objectives,	Work through a hierarchy of documents - e.g.

		identifying key policy areas to be assessed, also providing guidance for assessing different levels and aspects of ecosystem service governance.	treaties, legislation, conventions, strategy documents, communications, white papers etc.
2.2	Assessing the current level of integration	Assessment of all three levels of integration: conceptual, operational and implementation, with the focus in particular on the successes and failures of the latter. This assessment should take stock of the current level of integration at different relevant sectoral governance levels, starting from understanding the situation at the EU and/or national level and then moving onto regional and/or local level.	Covering both the opportunities for win-wins and reduced trade-offs. Windows of opportunity will differ at different governance levels (EU, Member State, region, city)
3	Step 2: identification of key policy and sectoral opportunities and needs for future integration.	The assessment of the current level of integration allows for a systematic approach to the identification of key opportunities and/or problem areas for ecosystem service integration to be taken. This assessment will include aspects related to possible future policies and policy instruments but also assessment of the needs and opportunities for boarder ecosystem service governance and science-policy interphase.	
3.1	Developing criteria for identifying opportunities and needs	Development of criteria for how to plan and prioritise policy action for further integration and uptake of ecosystem services and natural capital in the context of different	

		policies. This includes criteria for identifying key win-wins and avoiding trade-offs between policy sectors, assessing any possible bottlenecks for development (e.g. conflicting stakeholder interests or sectoral / geographical mandates), identifying concrete windows of opportunity (e.g. upcoming policy reforms) and linking these to possible sources to finance uptake.	
3.2	Identification - key policy areas and instruments	Identification and mapping of key policy areas and instruments for ecosystem service integration	See Figure 3
3.3	Identification - ecosystem service knowledge	Identification of needs and opportunities for ecosystem service knowledge for key sectors	See Figure 4
3.4	Identification - institutions and stakeholders	Mapping of key institutions and stakeholders responsible for affecting and implementing the decision	Depends on specific aspect of ecosystem services / natural capital and ideally cover both vertical links (i.e. from top down institutions to bottom up actors) and horizontal links (between stakeholders at the same level – e.g. different ministries)
4	Step 3: using the green economy framework as a strategic and holistic platform for planning take up and further implementation in	In order to use the sectoral policy assessment to support the broader national, regional or local shift to a green economy,	Refer to resource efficiency, circular economy and bio-economy

	practice	the outcome of the assessment need to be strategically mapped against the different possible pathways for green economy.	as well as sustainable development where relevant.
4.1	Identification of an appropriate strategic approach for a shift towards green economy	Outcome of the assessment under Chapter 3 is to be strategically "mapped" against the different possible pathways for green economy, this will form the basis for a strategic national / regional / local approach towards green economy	See Figure 5
4.2	Key economic sectors for a shift to green economy	Identification of key economic sectors within the area for green economy and carrying out a detailed assessment of interdependencies of and impacts on these sectors on ecosystem services	See Figure 6
5	Developing a plan for a shift towards green economy based on natural capital	Building on the insights above (Chapters 3-4) developing a strategic plan for the shift towards green economy and also a plan for communicating the opportunities to stakeholders, envisaged for a short and long term plan to be developed.	Ideally this would cover: issues, sectors, actors, actions, timelines.
6	**Step 4: (planning for) assessing and monitoring policy impacts**	Guidance on how to plan for measuring and assessing the impacts of ecosystem service integration in the future, this way verifying the actual impacts on biodiversity, ecosystems and related services.	Will require a range of existing data, tools and metrics, as well as likely new sources of information.
	References		
	Annexes		Include data sources for different types of documents for the

			assessment

Annex I Concrete analytical elements and visualisations to be included in the assessment framework

The following tables and figures outline the key conceptual and analytical elements foreseen to be included in the assessment framework.

Level of integration	Conceptual integration	Operational integration
Comprehensive and explicit	Explicit recognition of all ecosystem services, including the recognition of ecosystem services and natural capital as underpinning elements of human wellbeing	Dedicated instruments exist for addressing ecosystem services and natural capital in a comprehensive manner within a policy area.
Explicit but not comprehensive	Some explicit integration (e.g. some specific ecosystem services), including some recognition of ecosystem services and natural capital as underpinning elements of human wellbeing.	Some instruments exist that proactively address / build on the understanding of ecosystem services and natural capita within the policy area.
Implicit and incomprehensive	Implicit and indirect integration, generally focus on preventing negative impacts of a policy sector on ecosystem services and natural capital	No dedicated instruments exist for directly addressing ecosystem services and natural capital. Some aspects – mainly focusing on avoiding negative impacts on (some) ecosystem services - integrated into sectoral instruments.
No specific integration	No recognition (direct / indirect) of ecosystem services and natural capital	No instruments exist that would in any way address ecosystem services and natural capital.

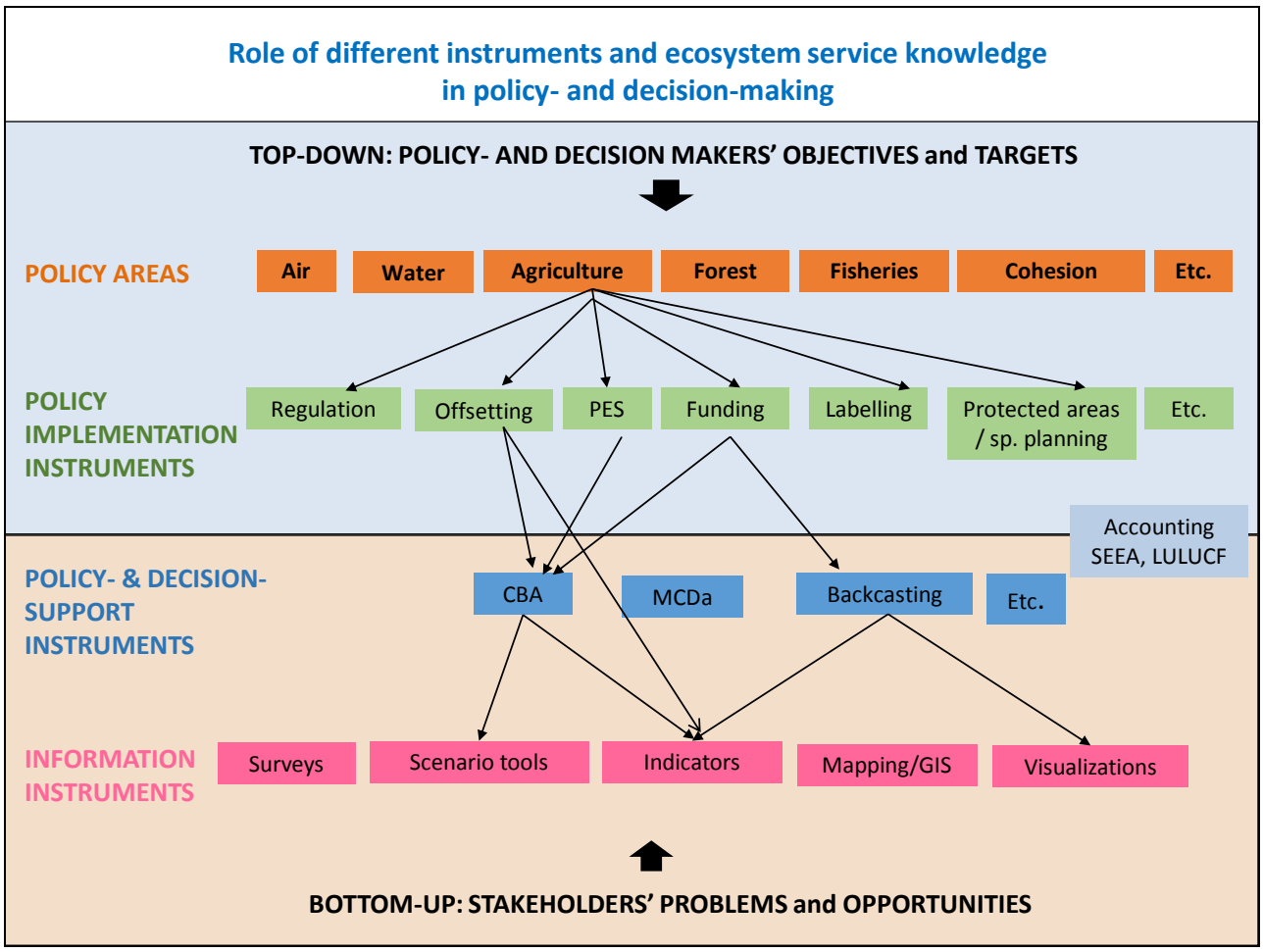
Table 1 Categorisation of the level of policy integration by Kettunen et al. 2014

Instrument category		Identified concrete instruments with relevance to ecosystem services and natural capital
Information instruments	Data, indicators, monitoring, mapping, accounting, science-policy assessments	• databases • indicators • monitoring and mapping frameworks • accounting frameworks • science-policy assessments and science policy interfaces (SPIs) supporting policy development
Decision-support instruments	Planning and targeting, supported by indicators, monitoring and mapping	• Regional management plans • Programmes for targeting and implementing funding (EU and national) • Other mechanisms supporting planning and targeting (e.g. restrictions in regulations affecting planning of infrastructure developments)
	Reporting, supported by indicators, monitoring	• Reporting and review frameworks for legislation (e.g. reporting for the implementation of EU directives)

	and mapping	• Ex-post assessments of policy instruments and related programmes (e.g. mid-term evaluations of funds)
	Impact assessment procedures and risk assessment and analysis	• Impact assessments (IA) underpinning the development of policies and legislation (e.g. *ex ante* assessments) • Strategic Environmental Assessment (SEA) and related guidance • Environmental Impact Assessment (EIA) and related guidance • Product life cycle assessments • Project selection and evaluation criteria
Implementation instruments	Dedicated legislative acts, regulations & standards	• EU directives and regulations • National and regional legislation • Criteria and standards for policy sectors
	Protected areas (Natura 2000 network)	• Natura 2000 areas, established based on the EU Habitats and Birds Directives • National protected areas, established based on national legislation
	Public investment (EU budget)	• European Agricultural Fund for Rural Development (EAFRD) • European Maritime and Fisheries Fund (EMFF) • EU Structural and Cohesion Funds (ERDF, ESF, CP) • EU Fund for the Environment – LIFE • National and regional funds
	Market-based instruments and certification	• Payments for ecosystem services (PES) • REDD+ • Offsetting schemes • Green public procurement (GPP) • Certification schemes
	Other	• Promoted / endorsed EU or nation-wide practices (e.g. soil conservation practices)

Table 2 Identification and categorisation of the types of policy instruments (existing or being currently developed) that can support the integration of ecosystem services and natural capital into different policy sectors, modified from Kettunen et al. 2014

Figure 1 Illustration of the hierarchy and role of different instruments (implementation, decision-support and information) required for successful integration of ecosystem services into policy- and decision-making. Source: OPERAs WP4 own illustration, adapted by M. Kettunen



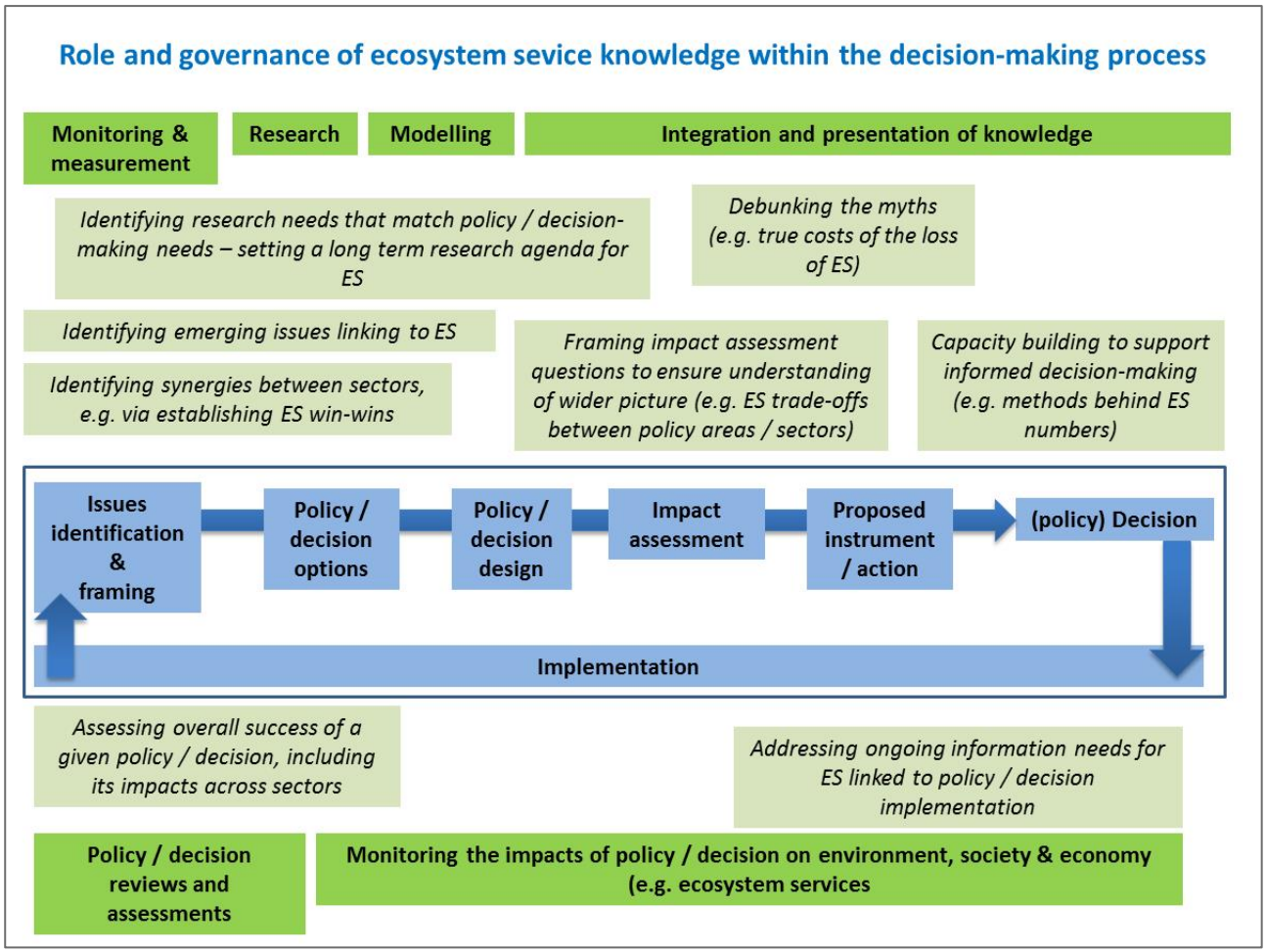
Policy sector	Conceptual integration (EU level)	Operational integration (EU level)	Implementation integration (national and/or regional level)
Environment: Air	Clean Air Policy Package (2013) Clean Air Programme for Europe (2013)	Negative effects of air pollution on ecosystems are partly addressed. The positive effects that ecosystems have on air quality or the consequences of air pollution on other ecosystem services are currently not integrated.	[To be filled in by the assessor]
Environment: Soil	Soil Thematic Strategy (2012) EU Roadmap to a Resource Efficient Europe (2011) Soil is also explicitly acknowledged under agriculture and rural development.	No dedicated policy instruments, some aspects integrated into different EU instruments, including CAP cross-compliance standards, EAFRD investment on agri-environment-climate and forestry measures, LULUCF reporting under climate policy for soil carbon, and EU environmental liability regarding damage to soil.	[To be filled in by the assessor]
Environment: Water	Blueprint to Safeguard Europe's Water Resources (2012)	Some indirect proactive elements under Water Framework Directive and the Flood Directive. None of the existing instruments explicitly recognise the role of ecosystem services in maintaining water quality or maintaining ground water sources. Nor do they explicitly avoid negative impacts on water ecosystem services. Different elements of guidance and work programmes produced under the WFD Common Implementation Strategy support ecosystem-based approaches to implementation.	[To be filled in by the assessor]
Agriculture and rural development	A certain number of ecosystem services are promoted under both Pillars of the Common Agricultural Policy (2013)	Some proactive elements, mainly agri-environment-climate, support to Natura 2000 areas, and non-productive investment measures in Member States' RDPs and preventing negative impacts on ecosystems / ecosystem	[To be filled in by the assessor]

		services	
Forest	EU Forest Strategy (2013)	No separate / dedicated instruments for forest ecosystem services, some elements integrated into different EU instruments. Note: the EU has limited competence in developing common forest policy / adopting dedicated common forest policy instruments for the EU.	[To be filled in by the assessor]
Marine and coastal (incl. fisheries)	Marine Strategy Framework Directive (MSFD) (2008) Common Fisheries Policy (CFP) European Maritime and Fisheries Fund (CFP) (2013)	Some proactive elements recognising the role of ecosystem services. A number of instruments preventing negative impacts on ecosystems.	[To be filled in by the assessor]
Regional development / cohesion	Europe 2020 Strategy 2010) Cohesion Policy funds (ERDF, ESF and CP) (2013)	Opportunities for win-wins of ecosystem service and the Cohesion policy objectives. Not obligatory for the Member States to take up these opportunities. Nor obligatory to integrate ecosystem services into reporting on results / outputs of ERDF and CP funding	[To be filled in by the assessor]
Climate	Climate change mitigation: LULUCF accounting rules (2013) Climate change adaptation: EU Strategy on Adaptation to Climate Change (2013)	Mitigation: direct but not comprehensive. Only carbon sequestration by soils, trees, plants, biomass and timber are included in the (future) framework for greenhouse gas emissions. Adaptation: mainly indirect, preventing negative impacts on ecosystems / ecosystem services.	[To be filled in by the assessor]
Bioenergy	Renewable Energy Directive (2009) Energy Efficiency Plan (2011)	Indirect, preventing negative impacts on ecosystems / ecosystem services There are no EU-level	[To be filled in by the assessor]

	Fuel Quality Directive (2009)	sustainability criteria for solid biomass.	
Transport	EU guidelines for the development of the trans-European transport network (TEN-T) Funding under Cohesion and Regional development (i.e. ERDF and CP).	Indirect, preventing negative impacts on ecosystems, mainly using Strategic Environmental Assessment (SEA) and Environment Impact Assessment (EIA).	[To be filled in by the assessor]

Table 3 A possible applicable framework for the assessment of integration across policy sectors with the EU level as a basis, modified from Kettunen et al. 2014

Figure 2 Illustration of the role of ecosystem service knowledge in the context of policy and/or decision-making process. Source: M. Kettunen, adapted from illustration by ten Brink et al. (2015)



Ecosystem service		Key levels of governance	Key sectoral policies	Key stakeholders
Nutrition: biomass and water	Cultivated crops	[To be filled in by the assessor]	[To be filled in by the assessor]	[To be filled in by the assessor]
	Reared animals and their outputs			
	Wild plants, algae and their outputs			
	Wild animals and their outputs			
	Plants and algae from in-situ aquaculture			
	Animals from in-situ aquaculture			
	Surface water for drinking			
	Ground water for drinking			
Mediation of flows	Mass stabilisation and control of erosion rates			
	Buffering and attenuation of mass flows			
	Hydrological cycle and water flow maintenance			
	Flood protection			
	Storm protection			
	Ventilation and transpiration			
Maintenance of physical, chemical, biological conditions	Pollination and seed dispersal			
	Maintaining nursery populations and habitats			
	Pest control			
	Disease control			
	Weathering processes			
	Decomposition and fixing processes			
	Chemical condition of freshwaters			
	Chemical condition of salt waters			
	Global climate regulation by reduction of greenhouse gas			

	concentrations			
	Micro and regional climate regulation			
Physical and intellectual interactions with biota, ecosystems, and land-/seascapes [environmental settings]	Experiential use of plants, animals and land-/seascapes in different environmental settings			
	Physical use of land-/seascapes in different environmental settings			
	Scientific			
	Educational			
	Heritage, cultural			
	Entertainment			
	Aesthetic			
Spiritual, symbolic and other interactions with biota, ecosystems, and land-/seascapes [environmental settings]	Symbolic			
	Sacred and/or religious			
	Existence			
	Bequest			

Table 4 A possible applicable framework for the assessment of ecosystem service governance across different ecosystem services.

Figure 3 A conceptual framework and six interconnected meta-approaches for the transition to green economy, building on natural capital. Source: ten Brink et al. (2012)

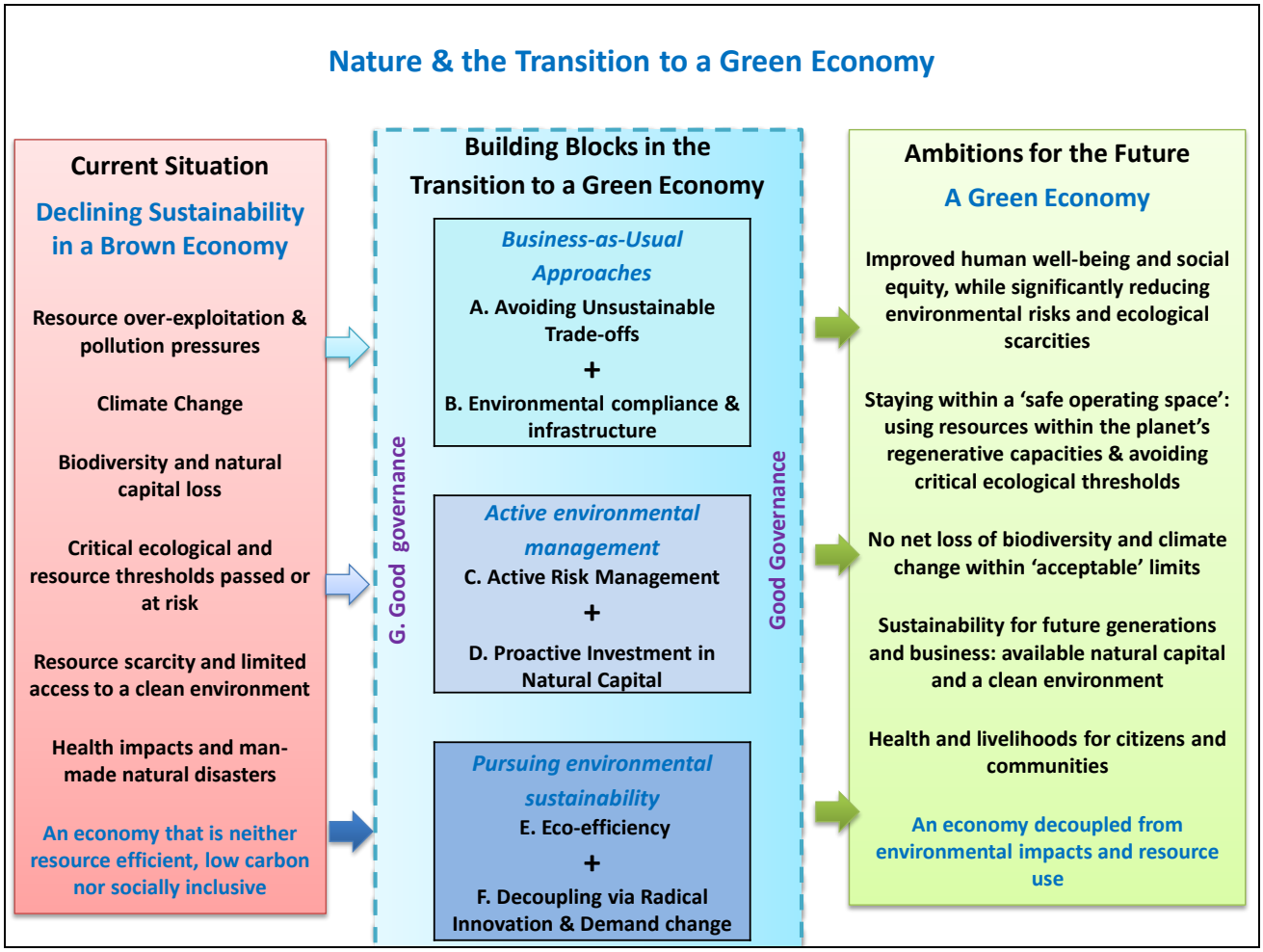


Figure 5 Example of a systematic assessment and illustration of interlinkages between the forestry sector and ecosystem services in Finland: interlinkages between ecosystem services and the forestry and forest industry. For ecosystem services, we used the Common International Classification of Ecosystem Services (CICES) (version 4.3). Source: Antikainen et al. (2015)