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How are we getting ready? The 2030 Agenda for Sustainable Development in the EU and its Member States: analysis and action so far

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Discussion Paper 9/2016

How Are We Getting Ready?

The 2030 Agenda for Sustainable Development in the EU and its Member States: Analysis and Action So Far

Ingeborg Niestroy

How are we getting ready?

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Dr Ingeborg Niestroy, Associate and EU liaison/International Institute for Sustainable Development (IISD)
Email: inge.niestroy@iisd.org

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© Deutsches Institut für Entwicklungspolitik gGmbH
Tulpenfeld 6, 53113 Bonn
☎ +49 (0)228 94927-0
🖷 +49 (0)228 94927-130
Email: die@die-gdi.de
www.die-gdi.de

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Abbreviations

DG AGRI	Directorate-General for Agriculture and Rural Development
DG DEVCO	Directorate-General for International Cooperation and Development
DG EAC	Directorate-General for Education and Culture
DG ECFIN	Directorate-General for Economic and Financial Affairs
DG EMPL	Directorate-General for Employment, Social Affairs and Inclusion
DG ENV	Directorate-General for Environment
DG GROW	Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs
DG REGIO	Directorate-General for Regional and Urban Policy
DG RTD	Directorate-General for Research and Innovation
EEA	European Environment Agency
EEAS	European External Action Service
EFSI	European Fund for Structural Investments
EP	European Parliament
EPSC	European Political Strategy Centre
ESDN	European Sustainable Development Network
ESIF	European Structural and Innovation Funds
EU SDS	EU Sustainable Development Strategy
FES	Friedrich Ebert Foundation
GFCF	Gross fixed capital formation
GNI	Gross National Income
GSDR	Global Sustainable Development Report
HDI	Human Development Index
HIC	High-income country
HLPF	High-level Political Forum
ICSU	International Council for Science
ISSC	International Social Science Council
LIC	Low-income country
MDGs	Millennium Development Goals
MIC	Middle-income country
NGO	Non-governmental organisation
ODI	Overseas Development Institute
OECD	Organisation for Economic Co-operation and Development
OWG	Open Working Group
PBL	Planbureau voor de Leefomgeving (Netherlands Environmental Assessment Agency)
PCD	Policy Coherence for Development
PCSD	Policy Coherence for Sustainable Development
R&D	Research and development

RNE	Rat für Nachhaltige Entwicklung (German Council for Sustainable Development)
SCP	Sustainable consumption and production
SD	Sustainable development
SDGs	Sustainable Development Goals
SEI	Stockholm Environment Institute
STI	Science, technology and innovation
TFEU	Treaty on the Functioning of the European Union
UN	United Nations
UNEP	United Nations Environment Programme

Summary and recommendations

On 1 January 2016, the 2030 Agenda and its 17 Sustainable Development Goals (SDGs) entered into force while the next High-level Political Forum (HLPF) is coming up in July 2016. This paper explores how the EU and its Member States are getting ready for the implementation of the 2030 Agenda and takes stock of the activities undertaken so far. With an analysis of existing 'gap analyses', it points to areas in which the EU and its Member States are facing specific challenges, where the need for action is comparably large in domestic and external policies and/or where there are significant knock-on effects. As these existing studies are country-level based, and no such study is available with EU-level data, the results are drawn from an aggregation across Member States. However, given the mainly shared competences between the EU and its Member States and with the subsidiarity principle taken into account, the EU will be responsible – or an important regional coordination venue – for at least parts of the SDGs. The key recommendations of this paper are:

On governance and approach

1. A **policy and effectiveness gap analysis** should be a priority for the EU. As all 28 EU Member States and the European Commission have committed to starting to implement the SDGs as per January 2016, this is already overdue. The gap analysis needs to take into account that the translation of the universal SDGs into a national and regional/EU context should be pursued in three key parallel tracks: **domestic** (domestic policies with domestic impacts); **domestic-external** (domestic policies with external impacts); **external** (external policies with external impacts), as well as feedback loops and impacts of global megatrends (see Figure 1 in Section 2). Further analysis will be required to identify the main tasks in these tracks as well as their links. It would also be desirable if a common approach could be established for the gap analyses of the Member States.

2. The system of SDGs provides a suitable framework to tackle Europe's key challenges in a comprehensive and strategic way. In order to get a grip on manifold and complex interlinkages, synergies and trade-offs, to facilitate communication, to improve integration and to get on the required transformative path, a **nexus approach** would seem most appropriate. This implies the selection of one or more groups of interlinked topics, such as water, energy and food security; or infrastructure, inequality and resilience (see the 2016 Global Sustainable Development Report).

3. **Horizontal coordination and policy integration** need to be reinvigorated. This requires the establishment and maintenance of governance structures to ensure such integration and to overcome the traditional silo approach, both at EU-level and at Member State-level. A good balance should be found between the strengths and weaknesses of division of tasks on the one hand, and integrated approaches on the other. A nexus approach should therefore always be part of **a broader governance concept** that keeps all tools within reach (metagovernance). Most of the Member States that have already started activities with respect to SDG implementation are building on an 'active' Sustainable Development Strategy. Even here, however, challenges remain, in particular regarding the revived need to bridge domestic and external domains.

4. The EU should establish an **excellent multi-level, multi-sector and multi-actor governance process** that is transparent, inclusive and reflexive, and that stimulates the

sharing of inspiring examples. This should be linked up to other emerging initiatives, such as those of the European Economic and Social Committee (EESC), the NGO community, business organisations and think tanks, at EU-level and in Member States. Both bottom-up multi-stakeholder partnerships and governments setting frameworks are required.

5. The key existing approach in the EU for bridging the domestic and external policy domains is **'Policy Coherence for Development (PCD)'**. It should be paramount for the EU and its Member States to engage in conceptual efforts to turn PCD into PCSD **'Policy Coherence for Sustainable Development'**, as SDG Target 17.14 foresees. So far, PCD only covers part of the SDGs, is part of a rather siloed approach, and is not well-connected to the domestic dimension of sustainable development. Governance arrangements need to dynamise the process, to support more connectedness and overcome resistance to joint responsibilities. The core of a PCSD approach should continue with the PCD focus on the domestic-external track, but through the lens of sustainable development (SD) on both the domestic and external side.

6. A **Commission-wide task force on implementing the SDGs** domestically and externally should be installed. Such a task force would detect when sectors are not willing to 'leave their comfort zone' and would bring 'win-win' options or difficult trade-offs to higher levels without delay, under the political responsibility of Vice-Presidents Timmermans and Mogherini. It would require a shared lead by the Secretary-General (responsible for coordinating SD) with a core group of the Directorates-General (DGs) mainly responsible for the three dimensions of sustainable development (DGs ENV, GROW, EMPL) and external policies (DGs DEVCO).

7. Political leadership needs to be underpinned by **an administrative capacity that functions adequately**, as implementation efforts might otherwise be weakened. At the Commission, the Secretariat-General has in the meantime taken on the lead of an Interservice Steering Group on Agenda 2030 implementation, however no dedicated entity is recognisable with a view to supporting the First Vice-President's task.

8. The pragmatic, problem- and solution-based approach of the **European Semester** might be highly appropriate for **monitoring and guiding the implementation** of the SDGs. The alternative would be to establish a separate governance mechanism. However this might lead to an institutionalised disconnection between the SDGs and the main economic and social governance of the EU, which could result in frequent conflicts between the two mechanisms and not serve policy coherence.

9. While the global set of **indicators** is strongly determined by data availability, OECD countries must a) not fall behind their existing targets and indicators; and should b) advance in developing more integrated indicators for a nexus approach. In the future cluster indicators might replace the Human Development Index (HDI)-footprint framework. For the time being, this remains valid as proxy for illustrating the desired development direction for high-, middle- and low-income countries alike towards the "Global Sustainable Development Quadrant" (see Figure 5 in Subsection 4.1) and, with that, as an illustration of the universal SDGs.

10. Taking a long-term perspective is necessary to create political awareness that today's **investments** are essential for effecting the long-term transitions we need, as: a) investments in environmental and other infrastructure usually take a long time to

deliver results (long 'lead time'); for instance: investment decisions need to be selected carefully; b) wrong investments may lock in existing technologies, limit options, or hinder the development of substitutes.

On challenging policy areas to be pursued

11. The strongest overlap of the gap analyses considered in this paper lies in **SDG 12 Sustainable Consumption and Production**, with Target 12.3 on food waste underlined, and **SDG 8 Economy and Employment**, with an emphasis on Target 8.4 resource efficiency. The analysis confirms that the **main challenges for the high-income countries lie in the 'middle circle' of the goals (see Figure 2), of production, distribution and delivery of good and services** that again depend on an intact natural environment ('outer circle'). Also, in the 'inner circle' (well-being, people-centred) challenges have arisen, in particular in inequality (SDG 10).

12. Beyond SDG 12 and SDG 8, three thematic areas come across as priority areas to work on: **SDG 9 Infrastructure and Investment** and its linkages with **five other SDGs**; **SDG 10 Inequality**, linked to **four other SDGs;** and **SDG 2 Food and Agriculture** in connection with **three other SDGs**.

Walking the talk: towards a Sustainable Development Union

13. The **SDGs provide a framework and point of reference for long-term orientation**. Their implementation will require one or two **overarching strategies**. Such long-term strategies serve continuity and support the pursuit of persistent challenges. Comparison of the EU Sustainable Development Strategy (EU SDS) and more recent strategy and priority-setting EU documents, including the EU 2020 Strategy and the Juncker 10 Priorities, shows that 15 years after its adoption the **EU SDS is still by far the best point of reference** for a new strategy for SDG implementation in the EU. In order to link the domestic and external implementation of the SDGs in an appropriate way, the work on the EU Global Strategy and the "new approach beyond 2020", as two possible overarching strategies, should be pursued at the same time and not subsequently.

14. All strategies require underpinning governance mechanisms for **monitoring progress and reviewing priorities**. Overarching strategies require leadership and **review at the top**. Along these lines, it was foreseen that the EU SDS be reviewed annually at the Spring **European Council** but this mechanism did not come to life. However the annual European Semester cycle, as introduced for the EU 2020 Strategy, has proven as successful governance mechanism with a similar revision by the Head of States.

15. Considering the highly complex landscape of existing EU policy priorities and targets on areas covered by the SDGs, the promised integration of the 2030 Agenda in the Commission's "new approach beyond 2020" may become a time-consuming battle between vested interests. This quest can only deliver the required outcome if it is **guided by strong political leadership on the part of the Commission and all 28 national governments** and is supported by the **European Parliament**, with the appropriate pressure from **business and civil society** groups.

1 Introduction

Laudably, the European Union was an important driver in the process towards the adoption of the Agenda 2030 and its 17 Sustainable Development Goals (SDGs) in September 2015 (UN General Assembly [UN GA], 2015b).[1] Not for nothing – as this universal Agenda provides a suitable framework to tackle Europe's key challenges in a comprehensive, strategic and holistic way.

The European Union (EU), its 28 Member States, and 500 million citizens constitute a global region that is closely interconnected with other regions in terms of economic, environmental and also social developments, impacts, policies and legally binding agreements. Big problems in one part of the world often have big impacts on Europe, and vice versa: for its industry, agriculture and consumer goods, for example, the EU's internal market depends largely on the import of resources from outside the EU. The macro-economic impacts of sudden changes in energy use and a rise in the incidence of natural catastrophes are among the risks stemming from not implementing necessary climate change measures (European Systemic Risk Board, 2016). It is therefore imperative that policymakers take global megatrends into account, – such as population trends, urbanisation, technological change, competition for resources, severe consequences of climate change and environmental pollution (European Environment Agency [EEA], 2015b), along with multinational companies becoming 'footloose', political conflicts and the resulting refugee crises.

The transition to a circular economy itself could also be seen as such a trend, as Vice-President Katainen of the European Commission predicts: "The circular economy will be a global mega-trend in market economy. You can compare circular economy to globalisation (...). We are talking about the new logic of product market."[2] Following this logic, the circular economy will soon also become a competitiveness issue: Who will be the winners and losers in the global race to design new products that use less resources, have reusable and exchangeable parts, and leave no waste behind?

Orienting public and private investments in the real economy to the SDGs will help create markets for new solutions that respond to the challenge of sustainability. Investments in research and innovation will accelerate economic transformation, promote technology uptake and adaptation, and strengthen governance capacities, if adequately protected and if sufficient absorption capacity is in place (European Commission, DG RTD, 2015).

We are not only living in a time of huge risks but also of limited institutional capacity and ambition to deal with them. It is good news that some governments are beginning to understand that they can only deal with such global megatrends if they connect their domestic actions with what happens at other levels (within the EU, with non-EU countries,

1 This paper will operate with the term SDGs, implying also the other elements of the 2030 Agenda as supporting the SDG implementation: the Declaration and the sections on Means of Implementation and Global Partnerships, and Follow-up and Review, as well as the Addis Ababa Action Agenda (AAAA, see UN GA, 2015a) as an integral part of the 2030 Agenda.

2 Vice-President Jyrki Katainen, 2 December 2015. http://europa.eu/rapid/press-release_SPEECH-15-6238_en.htm

and at a global scale).[3] Think tanks have urged policymakers to understand that the interdependence of countries is now a fact of global life that "is not matched by strengthening global governance" (European Strategy and Policy Analysis System [ESPAS], 2015), and that at all levels, "governments are struggling with a mismatch between the increasingly long-term, systemic challenges facing society and their more limited focus and powers" (EEA, 2015b, p. 101). Tackling big problems requires, on the one hand, an alignment with the megatrend of "diversification of governance approaches", but on the other hand "raises concerns about coordination and effectiveness, and the replacement of government authority with less accountable or transparent non-state actors" (EEA, 2015b, p. 101).

It is against this background that this paper explores the challenges – new, or old ones to be reinvigorated – facing high-income countries, and in particular the EU and its Member States arising from the 2030 Agenda and its 17 SDGs.

The urgency of the adoption of these Goals has certainly been recognised at the highest political level of the EU. First Vice-President Timmermans stated at the UN General Assembly in September 2015:

> The Agenda is about eradicating poverty and putting sustainability at the heart of everything we do. And this is not just the right thing to do, it's the smart thing to do: for our economy, for our environment, for our society. (Timmermans, 2015, September)

This is clearly a call to Europe to harvest the potential of this framework to tackle its own problems, including those that are highly intertwined globally. Together with the COP21 Paris agreement, the 2030 Agenda also brings more certainty for future directions. "The conversation is no longer about the direction and the ultimate destination – instead, it is now about the best way to achieve the goals and the speed at which it can be done", as the SustainAbility Global Trends report 2016 puts it.

What is historically new is that this Agenda is universal: it needs to be implemented in all countries, high-, middle-, and low-income alike[4]: "Every country is a developing country" as David Nabarro put it (Nabarro, 2016, May). The global process of progress reporting is being elaborated, including format and content of a Global Sustainable Development Report (GSDR), and will take further shape at the next meeting of the High-level Political Forum (HLPF) in July 2016. This will be its first meeting after the 2030 Agenda entered into force on 1 January 2016. A key ingredient for monitoring progress is globally applicable indicators, for which a set of 231 indicators was adopted by the UN Statistical Commission in March 2016 and is being followed-up by the UN's Inter-Agency and Expert Group on Sustainable Development Goal Indicators (IEAG-SDGs).[5]

3 It can be seen as positive in particular that Estonia, Finland, France and Germany are among the first countries to voluntarily report on their national implementation approach of the Sustainable Development Goals. https://sustainabledevelopment.un.org/hlpf

4 As the terms 'developing/developed countries' have outlived their explanatory power, they are replaced in this paper by high-, middle-, and low-income countries (HIC/MIC/LIC).

5 http://sd.iisd.org/news/iaeg-sdgs-takes-steps-towards-implementation-of-indicators/#more-319470

The process towards the SDGs was the result of a merger of a) the 'post-2015' policy activities for following-up the Millennium Development Goals (MDGs) that aimed at change in developing countries and expired in 2015, and b) the outcome document of the Rio+20 UN Conference on Sustainable Development ("The Future We Want", see UN GA, 2012) that launched a process to develop a strong "Post-2015 Development Agenda" around the concept of sustainable development and universally applicable SDGs.

In this respect, the Rio+20 conference was a successful follow-up of the 1992 Rio conference (UN Conference on Environment and Development), with the Agenda 21 as a first attempt at such a merge. The time was also riper in institutional terms: The SDG process in the Open Working Group (OWG) already brought about more collaboration between actors from the traditional development and the environment side. The European Commission Services succeeded internally in ensuring that all Communications were co-produced by the Directorate-General for International Cooperation and Development (DG DEVCO) and DG Environment, with the Secretariat-General playing an oversight role. This kind of bilateral collaboration will continue to be a core requirement at the EU- and country-level, but also needs to reach beyond and engage the other relevant departments.

The 2030 Agenda now, or perhaps once more, means first and foremost that all domestic and external policies of all countries will have to be reconsidered and amended through the lens of the three main dimensions of sustainable development: economic, social and environmental, as well as from the political/governance perspective. While it is clear that implementation tasks will have to be divided, providing a more systemic view intends to prevent stand-alone work and a segregation of the goals. In particular relevant from the view point of the universal agenda, the domestic ('here') and external/international work ('elsewhere') used to be pursued in a rather separate fashion in the past, both with regard to policies, institutions and virtually all actor constellations. The domestic track again was predominantly pursued through the environmental lens, with moves towards a more overarching SD agenda in a number of committed countries. Some of this was overcome during the OWG, but there is a risk that things will fall back to business as usual. Furthermore, the approach that has so far dealt with the link between domestic and external policies, "Policy Coherence for Development" (PCD), will require some conceptual overhaul if it is to be reinvented as "Policy Coherence for Sustainable Development", as is now captured in the SDG Target 17.14.

This paper is structured as follows: In order to be able to better navigate through the details and to avoid not seeing the wood for the trees, Section 2 explores the system of SDGs, their interlinkages and integration needs, and defines terminology. Section 3 then takes stock of activities which are ongoing at EU-level and in Member States with respect to 'gap analyses' and institutional arrangements, with a particular focus on the link between the domestic and the external agenda. Subsection 4.1 provides a meta-analysis of gap analyses that exist up to now and illustrates the external impacts of domestic policies by way of a number of examples (Subsection 4.2). Section 5 gives an overview how the SDG areas are already being addressed in several EU strategy documents and highlights gaps. Finally Section 6 draws a number of lessons with regard to approach and governance, and carves out, from the meta-analysis, a selection of policy areas for focussed action. The paper compares the methodology and results of existing gap analyses for the SDGs within and across EU Member States. However it is outside the scope of this paper to conduct a systematic gap analysis at EU-level.

2 The system of SDGs: enhanced need for an integrated approach

Before diving into and across all SDGs (see Section 4), it is useful to reflect on the system of the goals. While the set of SDGs is the result of an international negotiation process rather than representing a fully coherent systemic view of the socio-political/ economic/environmental 'system' (as a more scientifically based framework might deliver, see below), the SDGs do indeed cover all areas relevant for sustainable development. The subsections below begin by defining terminology and providing a framework for structuring the SDGs along the main integration challenges, based on three perspectives that will be explored thereafter: 1) horizontal integration, which applies mainly to the domestic and domestic-external tracks; 2) vertical and international integration (mainly domestic-external and external tracks), and 3) the integration of sustainable development in Policy Coherence for Development (from PCD to PCSD).

Defining terminology

Taking into account recent think-pieces on how to translate universality into a national and regional/EU context, this paper builds on the conceptual framework that the SDGs need to be pursued in three key parallel tracks, which at the same time cannot always be clearly distinguished from one another (European Commission, DG RTD, 2015, p. 10):

a) *domestic policies to be pursued by all countries to improve their national conditions* (human rights, governance, rule of law, education, health, income equality within nations, environmental protection, etc.);

b) *domestic policies and actions that have an impact on other regions and countries* (consumption and production patterns, greenhouse gas (GHG) emissions, resource use, agriculture and fisheries, transboundary environmental pollution, etc.);

c) *international policies* (development cooperation, trade, migration, etc.).

These tracks have been described earlier by Martens and Obenland (2015, February) and defined by the German Council for Sustainable Development (Rat für Nachhaltige Entwicklung [RNE], 2015, May), as well as by the Friedrich Ebert Foundation (FES) (2015, March) and the Stockholm Environment Institute (Weitz, Persson, Nilsson, & Tenggren et al. 2015, May), though using different wording. This also connects to the terms 'here' and 'elsewhere' which however do not specify a middle category (compare Table 1).

Table 1: Comparison of terminology used for the three main SDG implementation tracks

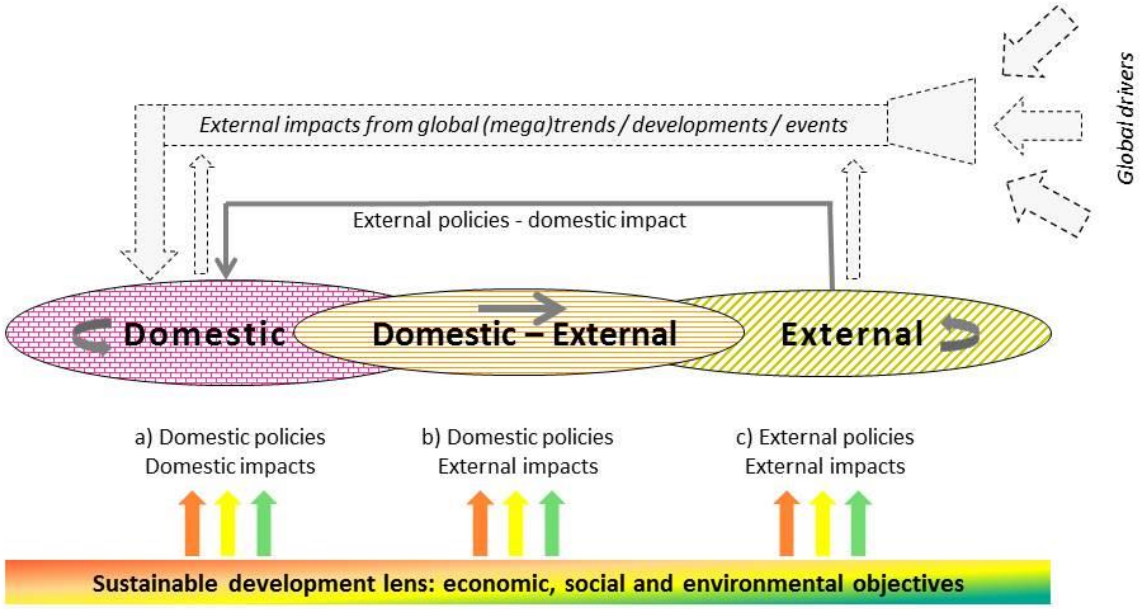
DIE	**FES / Martens&Oberland**	**SEI**	**RNE**	**Various**
a) domestic: (domestic policies – domestic impacts)	domestic sustainability targets	domestic agenda	in Germany for Germany	'here'
b) domestic – external (domestic policies – external impacts)	do-no-harm targets	international agenda	in Germany for the world	'elsewhere' (without defining the link to "here")
c) external (external policies – external impacts)	international responsibility targets	development cooperation agenda	in other countries through Germany	'elsewhere'

Source: Author

This paper will use the terms 'domestic' for track a); 'domestic-external' for track b); and 'external' for track c).

Figure 1 summarises this from the perspective of the EU and its Member States (and countries of the global North in general). It indicates that all policies in the three tracks need to be considered through the lens of sustainable development (with the aim to reconcile objectives in the three basic dimensions) and takes into account both feedback loops from external policies/impacts as well as external impacts from global developments, events and trends on the domestic situation.

Figure 1: Universal SDGs: three policy tracks to pursue and feedback loops through an SD lens



Source: Author

The following section shows that the SDG framework makes it necessary and also provides an opportunity to tackle the issues in a more holistic and integrated way, thereby improving policy coherence. This will require better horizontal and vertical policy coordination along the tracks illustrated, and might even necessitate "a fundamental transformation towards an integrated approach" (Lucas, Kanie &Weitz, 2016).

A framework for structuring the SDGs

Figure 2 provides a framework for structuring the SDGs (Lucas et al., 2016, p. 25, based on Waage et al., 2015). It is inspired by the Oxfam 'doughnut' (Raworth, 2012) which is based on the concept of planetary boundaries (Rockström et al., 2009) that defines a "safe and just space for humanity" within an environmental ceiling, as the foundation for social development. Similarly, in Figure 1 the concentric circles present the main intended outcomes as embedded[6]: 'People-centred' goals are found in the inner circle: well-being

6 Conceptually, the Waage model is closely related to the 'means-ends framework'developed by Daly (1973): well-being (and related aims) as 'ultimate ends'; 'people-centred' goals as 'intermediate ends' (inner circle); the middle circle of 'production, distribution and delivery of goods and services' as

through ending poverty; improved health and education; reduced inequality (including gender) within and between countries; (SDGs 1, 3, 4, 5, 10). These goals are embedded in the "middle circle" of 'production, distribution and delivery of goods and services' and their achievement relies on the realisation of these SDGs: delivery of food, water, energy (SDG 2, 6, 7), as well as economic growth and employment, infrastructure, resources and waste management (SDGs 8, 9, 11, 12). This is again embedded in and depends on the conditions of the natural environment that represent the basis for life and all human activities. This outer circle hence comprises the three SDGs relating to natural resources and ecosystems: climate, oceans, biodiversity and land (SDGs 13, 14, 15). SDG 17 is placed outside the circle as underlying goal for Means of Implementation and other governance-related targets. For the same reason, SDG 16 on governance and peaceful societies is also placed outside the circle in this depiction of the model.

Regarding the importance of the outer circle, the United Nations Environment Programme (UNEP) and various other authors conclude that achieving 10 of the SDGs depends on significantly improving the natural resource base, and that in 12 SDGs human well-being is based on the sustainable use of natural resources (UNEP, 2015a, p. 13). The gap analysis in the Netherlands (see Subsection 4.1) on environment-related SDGs attributes the greatest challenge for high-income countries to the middle circle, where the aim is to decouple economic growth from environmental degradation inter alia by increasing the efficiency of natural resource use and, with that, serving the goals of the outer circle (Lucas et al., 2016, pp. 25-26).

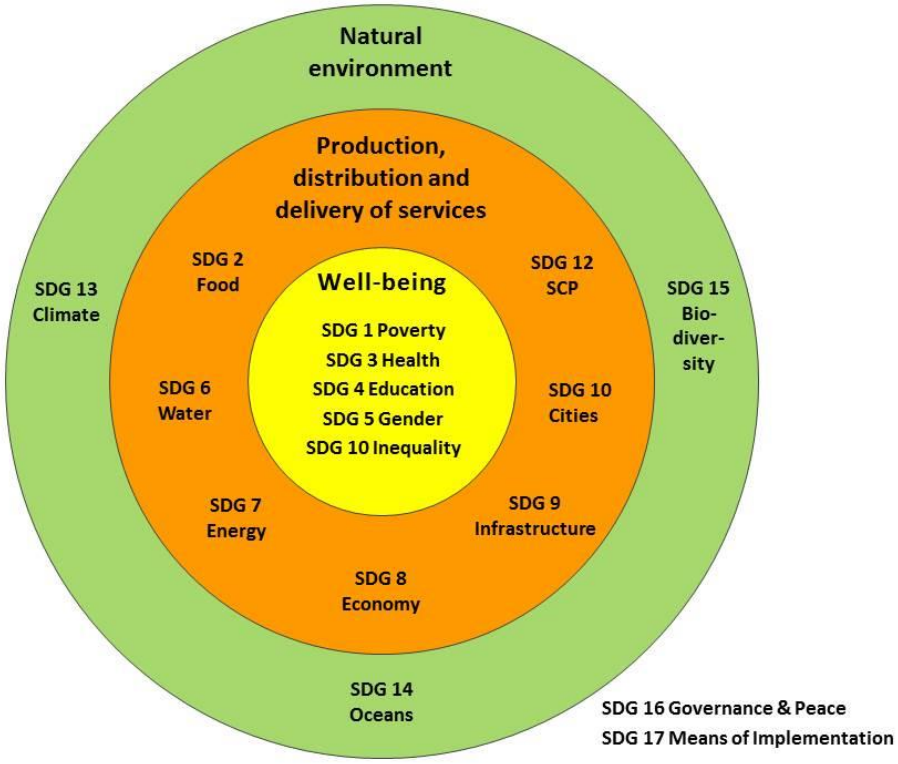
The categorisation of the SDGs in Figure 2 is only approximate, and for some goals the proposed targets actually spread across different levels. For instance, the water-related targets of SDG 6 address the outer circle (intact water-related ecosystems are required to provide the resource water: 'ecosystem service'), the production/distribution middle circle (useable capacity, efficient use, water quality), and the inner well-being circle (sanitation). Similarly, the agriculture-related targets of SDG 2 address both the middle circle (sustainable agriculture, productivity) and the inner well-being circle (end hunger).

This already points to the interlinkages between the goals and targets, which range from synergies to trade-offs (based on Isaksson, 2015):

- Synergy: One goal **facilitates** or **reinforces** the fulfilment of another goal
- Compatible: One goal is **not influenced,** positively or negatively, by another goal
- Conditional/Dependence: One goal is **dependent** on the fulfilment of another goal (or limited by another goal, which is then often already a conflict)
- Conflict/Trade-off: One goal is in **conflict** with another goal
- Dilemma: One goal **hinders** the fulfilment of another goal.

'intermediate means'; and the conditions of the natural environment as 'ultimate means' (outer circle) (see also Pinter et al., 2014, p. 19).

Figure 2: Framework for clustering the SDGs



Source: Author, based on Lucas et al. (2016, p. 25) and Waage et al. (2015)

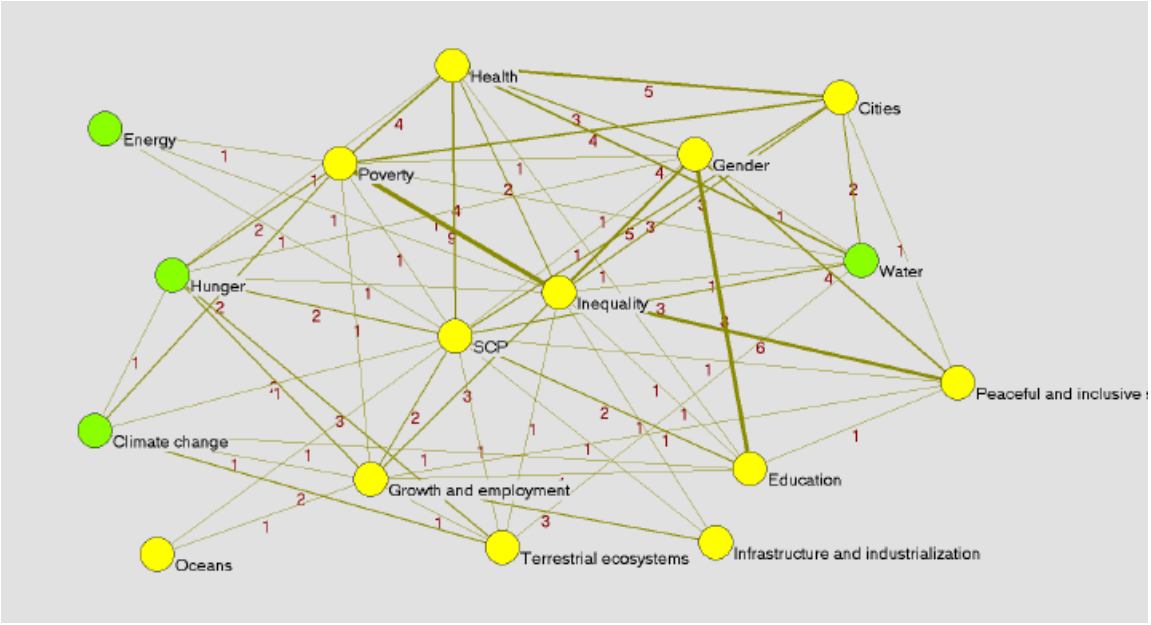
Interlinkages (1): Horizontal integration (domestic and at each level)

Interlinkages between the SDGs can already be identified by examining overlaps, as various SDG targets address similar themes but within a different context, for example (Lucas et al. 2016, p. 26):

- Disasters and extreme events are addressed within the context of poverty eradication (Target 1.5), cities (Target 11.5) and climate change (Target 13.1);
- Sustainability education is addressed in Target 4.7 but also in the context of sustainable consumption and production (Target 12.8) and climate change (Target 13.3);
- Resource efficiency and decoupling economic growth from environmental degradation are broadly addressed under SDG 8 on sustainable economic growth (Target 8.4) and more specifically under many other goals, such as those on agriculture and food (Target 2.4), water (Target 6.4) and energy (Target 7.3). Similarly, the efficient use of natural resources is broadly addressed under Goal 12 on sustainable consumption and production (Target 12.2) and more specifically under various other goals, such as those for water (Target 6.4), oceans, seas and marine resources (various targets under Goal 14) and terrestrial ecosystems and biodiversity (various targets under Goal 15).

A first analysis of the 'goals as network of targets' shows that the goals most frequently connected are SDG 12 SCP (Sustainable Consumption and Production) and SDG 10 Inequality. These goals are therefore found at the centre of Figure 3, followed by SDG 1 Poverty, SDG 8 Growth and Employment, SDG 2 Hunger/Agriculture and SDG 3 Health (Le Blanc, 2015, pp. 5-6).

Figure 3: Links between the SDGs through targets: an aggregated picture



Source: Le Blanc (2015, p. 5)

While this first analysis is based on counting the appearance of respective terms in the SDG section of the 2030 Agenda, a second analysis counted the terms used in an ICSU-ISSC paper (International Council for Science/International Social Science Council, 2015), where a multidisciplinary group of academics proposed, per individual SDG, the links to other goals and targets. These results produce an even more complex picture. Le Blanc (2015, p. 15) concludes that the set of SDGs is more complete and interconnected than the MDGs and other predecessors, thus providing the opportunity for better policy integration across sectors. However, as the political framework that the SDGs provide does not reflect the full picture and as some areas and goals are rather weakly connected (in particular the SDGs 14 Oceans, SDG 9 Infrastructure, SDG 7 Energy, and also SDG 16 Governance, SDG 13 Climate Change and SDG 15 Biodiversity), attempts towards policy integration will require the inclusion of studies on biophysical, social and economic systems.

While no studies are yet available for the full set of SDGs and their interlinkages, the Global Sustainable Development Report (UN DESA, 2015) points to a number of studies on subsets of goals.[7] The Netherlands Environmental Assessment Agency (PBL, 2012, pp. 42-43, 50) identifies a high degree of synergy for goals that stand for the satisfaction of basic human needs – such as the provision of food, water and energy (middle circle) and those aimed at natural resource conservation (outer circle). Greater efficiency in the use of natural resources, through both efficiency improvements on the production/distribution side and more sustainable consumption (for instance, energy savings, changing diets, reducing waste generation) reduces the pressure on the natural environment and makes the achievement of the middle circle goals more likely (see 'interdependence' above). An example of a trade-off is the growing demand for land for competing uses: while biodiversity conservation contributes to CO2 reduction (and with that to both SDG 13 and 15), it reduces the availability of land for food and biomass production (SDG 2 and 12).

7 For a first analysis on SDG 12 interlinkages, see also Coopman, Osborne, & Ullah (2016).

The 'nexus approach' is one promising way to achieve better horizontal (and vertical, see below) policy integration (Lucas et al., 2016, p. 27). This would also include reconsidering cluster analysis (see Kok et al., 2010; Environmental Performance Index 2006, 2008, 2010[8]) and more integrated indicators across the chain 'driving force, pressure, state, impact, and response' (DPSIR) (EEA 2014, pp. 33, 42). The most prominent example so far is the water-energy-food security nexus, which aims at the security of supply in these areas by "increasing efficiency, reducing trade-offs, building synergies and improving governance across sectors" (Hoff, 2011, p. 4). A major conference in Bonn 2011[9] has seen an array of follow-up activities, though to date no explicit connection to the SDGs has been made.[10] The Global Sustainable Development Report includes a nexus for oceans, seas, marine resources and human well-being (UN DESA, 2015), and one for infrastructure, inequality and resilience (UN DESA, 2016). The UNEP second meeting of the Open-ended Committee of Permanent Representatives (OECPR-2) merely underlined the health-environment nexus[11], as did the European Environment Agency (EEA, 2015a).

Identifying potential areas with a higher or more urgent need for activities of the EU might be based on considering synergies ('win-win' situations) and knock-on effects, or on areas with strong lagging and/or conflicts ('trade-offs'). Selecting such focus areas will be required for reasons of communication and political management, and can best be framed as sequencing. In any case, as the explorations above show, it is essential to further analyse, to take into account and to tackle the interlinkages.

Interlinkages (2): Vertical integration and international tracks (domestic-external and external)

The perspective taken so far has mainly concerned horizontal integration, that is, between policy areas and sectors, at one level (national, regional, global) or within one jurisdiction. 'Vertical coordination' (or 'integration') typically refers to linking local, national, regional and global/international levels, for example by way of UN agreements (such as Multilateral Environmental Agreements (MEAs), and the SDGs) to be implemented at national or at all levels. For domestic policies there are typically shared competences between national and sub-national levels, as well as between the EU and its Member States.

Domestic policies and the (resulting) economies ("the pursuit of welfare", CBS, 2014, p. 18) have impacts on other countries, through imports (of, for instance, resources and products) and exports (of, for instance, products, and also emissions). This is often addressed under the header 'elsewhere'[12], and some use 'vertical integration' (Lucas et al., 2016). However, this term is generally used in the context of multi-level governance where 'vertical' implies some kind of hierarchy, which does not apply here. The domestic-external coordination (together with polices that are typically considered as external, such

8 http://sedac.ciesin.columbia.edu/data/collection/epi/sets/browse

9 http://www.water-energy-food.org/en/home.html

10 For example, Bhaduri, Ringler, Dombrowsky, Mohtar, and Scheumann (2015); similarly not at a US conference in January 2016, http://foodenergywaternexus.org/.

11 http://sd.iisd.org/news/unep-oecpr-2-addresses-implementation-environmental-dimensions-of-agenda-2030/

12 For example, in the Sustainability Monitor of the Netherlands (Centraal Bureau voor de Statistiek [CBS], 2014), also as "Netherlands in the world".

as trade or security) has so far been pursued under 'Policy Coherence for Development' (PCD, see below).

The nexus approach is capable of encompassing both domestic and external impacts. Furthermore footprint or 'rucksack' indicators (ecological, carbon and water footprint) are suitable measurements as they relate domestic consumption to environmental impacts, both domestically and externally, by taking the entire production chain into account.[13]

Not only should the impacts of domestic policies 'elsewhere' be taken more into consideration, but also the other way round: As briefly mentioned in Section 1, many global trends have significant consequences for Europe. The main findings of the Assessment of Global Megatrends report (EEA, 2015b) include the following: Demographic, economic or geopolitical developments elsewhere can influence the availability and price of natural resources and energy in Europe; increasing environmental pollution in other regions of the world contributes to direct environmental and human harm in Europe (such as transboundary air pollution and eutrophication of aquatic ecosystems caused by nutrients surplus from agriculture); the threat of global pandemics continues; climate change is expected to increasingly threaten natural ecosystems, slow economic growth, erode global food security, and increase inequality.

In general, the use of the term'policies' in this paper is to be understood in a wider sense, namely including the sheer existence and effects of people in societies, in real economies and in certain governance environments. It is assumed that policies influence or 'steer' these realities and their impacts and the term is understood in this wider sense to include all governance styles (that is, also network and market governance and not merely legal instruments in the narrow sense of the word 'policies').

Interlinkages between the SDGs (3): From PCD to PCSD

While the aim of achieving policy coherence also applies to the horizontal integration requirement addressed above, in the international context this aim is commonly referred to as the promotion of **'Policy Coherence for Development (PCD)'**. This concept emerged in the 1990s and was already enshrined in 1992 in the Maastricht Treaty (Art. 130v, Treaty of Maastricht on European Union, 1992), with further clarifications in the 2005 European Consensus on Development and subsequently in the 2009 Lisbon Treaty. Art. 208 of the Treaty on the Functioning of the European Union (TFEU) states that

a) development cooperation should "be conducted within the framework of the principles and objectives of the Union's external action",

b) development cooperation policy should "have as its primary objective the reduction and, in the long term, the eradication of poverty",

c) the Union should "take account of the objectives of development cooperation in the policies that it implements which are likely to affect developing countries", and that

d) the Union and the Member States should "comply with the commitments and take account of the objectives they have approved in the context of the UN and other competent international organisations".

13 See, for example, www.footprintnetwork.org; for a critical review, see Wiedmann and Barrett (2010).

Given that SDG 17 includes the Target 17.14 to "enhance **policy coherence for sustainable development**" (PCSD) this leads to an array of questions:

- Can poverty reduction stay as the primary objective (item b) above) and point of reference for PCD while the 2030 Agenda to which the Union and its Members committed (item d) above) goes beyond that Goal?
- Art. 3 (3) of the Treaty on European Union claims that the Union should "work for the sustainable development of Europe", which in light of the SDGs also needs to become at least one of the points of reference of PCSD.
- What does the provision of Target 17.14 tell us when we address PCSD in the context of EU policies – domestic and external ones alike? Can the Union's external action (item a) above) be something that is not being aimed at the 2030 Agenda commitments (item d) above)?

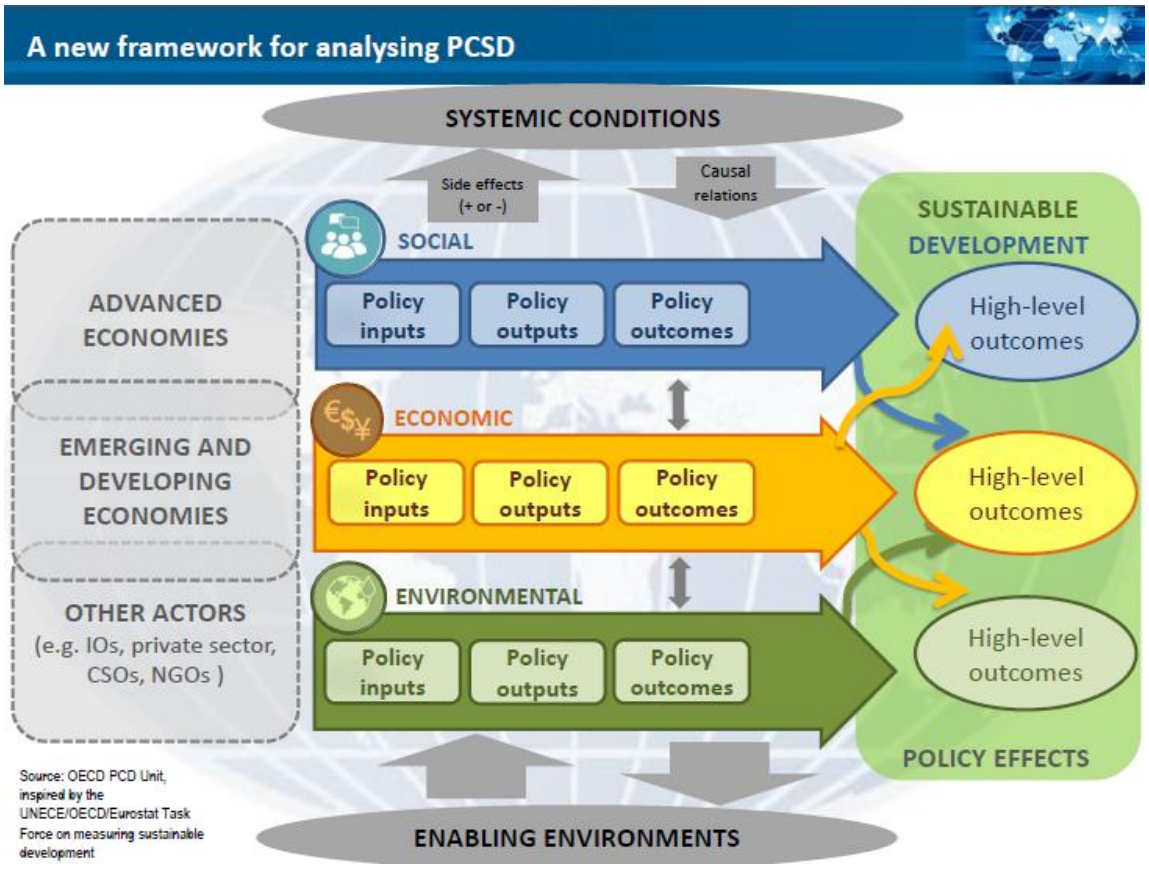
The Organisation for Economic Co-operation and Development (OECD) has also promoted PCD, and has started to re-conceptualise it with respect to the SDGs and Target 17.14 for PCSD. It has built on previous conclusions that the 'do no harm' approach of PCD falls short, as it tends to be short-term oriented and donor-centred, tends to stay in policy silos and not link the spill-over effects of a domestic policy to development cooperation. A framework for analysing PCSD was developed, covering advanced, emerging and developing economies and other actors, and proposing the assessment of policies in the social, economic and environmental perspectives as well as the interlinkages between them in order to achieve high-level outcomes in all (Figure 4).

While these are commendable steps for turning PCD into true PCSD, further work will be necessary in order to revamp the concept (see also Knoll, 2014), translate it into practice and underpin it with appropriate (scenario) studies and assessment tools (as started in OECD, 2015b; see also UN DESA, 2015; European Commission, 2015c). As there are still different connotations of 'development' and 'sustainable development', efforts will have to be made to rephrase the wording in order to adequately communicate the differentiated development paths (see also arrows in Figure 5, Section 4). The core of a PCSD approach should continue with the PCD focus on the domestic-external track, but through the lens of sustainable development (SD) on both the domestic and external side.

There seem to be some miles to go in order to renew the governance of this process, in support of thinking in a more connected way and overcoming resistance to joint responsibilities (see also Carbone & Keijzer, 2016). The "need to move beyond institutional mechanisms" has been underlined, but pathways are yet to be found.[14] The PCD focal points might have lived a 'siloed' life themselves and, being anchored in the ministries/agencies for development cooperation, might have meant that this side was emphasised and/or that links to domestic policy areas were too weak institutionally. Furthermore Keijzer & Paulo (2015, p. 48) state that the "management of a broader PCD requires more bottom-up and demand-driven approaches as well as space for political deliberation and dispute settlement".

14 Meeting of the national focal points for PCD, October 2015. http://www.oecd.org/pcd/ninthmeetingofthenationalfocalpointsforpolicycoherence.htm

Figure 4: A framework for analysing PCSD



Source: OECD (2014), similar OECD (2015a, p. 42)

The broad set of SDGs provides an opportunity to consider the interlinkages of SDGs and targets and related policies areas in a more complete and integrated fashion, taking into account the interdependencies as depicted in Figure 2. As these interlinkages are in fact more manifold than has so far been considered, the policy areas analysed under PCD will also need to be revisited. Up to now, PCD has mainly addressed trade and finance; food security (including agriculture and fisheries policies); climate change; migration; and security (see European Commission, 2015d). These policy areas belong either solely to the 'external' track (trade, migration, security) or to both the 'external' and to the 'domestic-external' track (food security, climate change). In the case of agriculture, recommendations mainly address agricultural trade policies and the investment of private EU agri-business in developing countries. In the case of fisheries, the scope is more comprehensive: "coherence between the internal and external dimension of Common Fisheries Policy" and the EU as the "world's largest importer of fish and fisheries products" are addressed (European Commission, 2015d, p. 99). Thus PCD is dealing here indeed with the consumption side in Europe. However, it only takes into account the import of 'raw' natural resources, but this needs to be extended to *all* material flows in *all* global values chains, a notion that will be revisited in Subsection 4.2.

3 Getting into gear in the EU and its Member States

3.1 Stock-taking of activities in the EU and its Member States

In high-income countries so far, the attitude is widespread that the SDGs are a kind of 'MDG plus', largely applicable to developing countries and including the external track for OECD DAC (Development Assistance Committee) countries. The *universality* of the agenda has thus not yet been fully accepted. This attitude tends to be confirmed when it comes to measurement with globally applicable indicators, where the global North seems to perform comparably well. However, this only applies when indicators are *aggregated*[15], while significant challenges still exist in the areas of the 'middle' and 'outer' circle of the SDGs (see Section 2), as further analysis in this paper will show (see Section 4). This section takes stock of activities of the EU institutions and forerunning EU Member States, with special attention to approaches or institutional changes aimed at better tackling the international tracks (domestic-external and external).

EU institutions

Within the European Commission, the core team running the post-2015 process was from DG Environment and DG DEVCO. Compared to earlier times, this was clearly an achievement to be further built upon. Widening ownership to all the DGs concerned has started in the meantime (a), but is nevertheless largely separate from the work on the EU Global Strategy (b).

a) After early announcements that the Commission would start a 'gap analysis' (ESDN Workshop Brussels, 16 June 2015), the pace for tackling the 2030 Agenda turned out to be very slow. In July 2015, a Special Advisor for Sustainable Development in the European Political Strategy Centre (EPSC) was tasked with elaborating recommendations for SDG implementation in the EU by June 2016 only. A new Deputy Secretary-General responsible for sustainable development was appointed at the end of 2015. The Commission's Work Program 2016 of December 2015 finally announced as a new initiative a "new approach to ensuring economic growth and social and environmental sustainability beyond the 2020 timeframe, taking into account the Europe 2020 review and the internal and external implementation of the United Nations Sustainable Development Goals". This wording reflects the fact that all options for such an approach were to be kept open (see also Section 5).

However, things did not take off and crisis management seems to have absorbed all capacities. Despite the intention that the new Commission structure with vice-presidents responsible for certain clusters of tasks will bring about more collaborative working and effective results, it appears that the Commission is getting itself tied up in a lack of coordination between politicised cabinets and a Secretariat-General with a hierarchical legacy that is difficult to overcome. Finally, in April 2016, an Interservice Steering Group was established for the "new approach beyond 2020", and a Communication for the

15 See, for instance, SDSN Draft SDG Index, February 2016 http://unsdsn.org/resources/publications/sdg-index/.

'overarching' part is now expected in October 2016. It remains to be seen what kind of gap analysis will be conducted.

b) At the same time, DG DEVCO received green light for the development cooperation part of the 2030 Agenda implementation, and the Council held an orientation debate on 12 May 2016. On the same day, the Plenary session of the European Parliament (EP) adopted a resolution on the Agenda 2030, which tends to lean to the external side. Having said that, the EP calls for an "overarching SD Strategy encompassing all relevant internal and external policy areas" (European Parliament, 2016). Also on the external side, the EU Global Strategy is the most advanced policy[16]: it was widely consulted between October 2015 and April 2016, and was presented to the EU leaders in June 2016. The European Council "welcomes the presentation of the Global Strategy ... and invites the High Representative, the Commission and the Council to take the work forward". This phase might provide the opportunity to put it better in the context of the 2030 Agenda. The debate around this strategy is not covered in this paper.[17]

EU Member States

The fore- and front-running European countries for the SD agenda have active members in ESDN (European Sustainable Development Network)[18], which started to raise awareness for the SDGs at its annual conference in November 2014 and has continued, with different perspectives, ever since. The seven countries presenting their plans for implementing the 2030 Agenda at events in June and October 2015 (ESDN, 2015a and 2015b) focussed on the planned processes and governance arrangements. Table 2 shows the timelines and key activities as presented and further updated through individual inquiries in most of these countries. It also captures the main governance mechanism, with special focus on existing or planned institutional structures with an aim to better link the domestic and external tracks of SDG implementation. The column 'SDI' shows which countries have an indicator system in place to monitor progress on their SD strategy (BE, CH, DE, FI, FR), or with a less clear connection (EE, LV), or for SD policies without a strategy (NL). Such an SD indicator system also exists in Austria (AT), Luxemburg (LU) and Slovenia (SI).

16 https://europa.eu/globalstrategy/en; see also Gavas et al. 2016.

17 Recommendations for the EU Global strategy and a strategy architecture at EU-level were recently elaborated in the DIE Briefing Paper "Towards a Sustainable Development Union" (Hackenesch, Kloke-Lesch, Koch, Niestroy, & Scholz, 2016).

18 www.sd-network.eu: an informal network of typically mid-management government officials responsible for SD, and partners from civil society and knowledge institutions.

Table 2: Gap analyses, plans for SDG implementation and governance mechanisms in 8 EU Member States and Switzerland					
	Activities (gap analyses, etc.)	**SDI/ SDS**	**Responsibility in government**	**Governance mechanisms**	**Bridging domestic and external?**
BE	Advice SD Council (FRDO-CFDD, October 2015): national SD long-term vision (2013) should be adapted to the SDGs	**X**	Prime Minister; Minister for Energy, Environment & SD; MFA; Minister Dev't Coop.	Interdepartmental Commission for SD (ICDO, civil servants), lead by cabinet Minister EESD Advice: Multi-stakeholder SD Council FRDO-CFDD	± ICDO: all Ministries, incl. MFA (dev't coop.) ☆ Advice of SD Council: asks for developing a PCSD approach
CH	- Gov't announced the start of national implementation (December 2015) - Renewed NSDS adopted in January 2016; stakeholder dialogue 2014-15 (not with SDG framing) - Gap analysis in sectoral policies: 2016-17; Gov't decision on implementation: 2018 *Voluntary reporting at HLPF 2016*	**X**	Gov't tasked ARE and SDC with leading and coordinating: - ARE (under MoE) for domestic and domestic-external - SDC (under MFA) for international	IDANE/ISDC (Interdepartmental SD Committee), lead by ARE, and Federal Offices for Public Health, Agriculture, Environment and the SDC	💣 SDC did not participate in the stakeholder dialogue (neither did SECO) ± SDC and SECO are co-hosting annual conference on Agenda 2030, but: 💣 no involvement of ARE
DE	- Stakeholder dialogue 2015-16 - Draft revised NSDS (May 2016): How national targets and actions contribute to the SDGs, and filling gaps *Voluntary reporting at HLPF 2016*	**X**	PMO: Chancellery	State Secretary Committee (all Ministries at Junior Minister level), lead by the Head of the Chancellery SD Council: Advice on architecture and priority areas of the German SDS	☆ PMO lead, all Ministries ☆ Stakeholder dialogue with two workshops on linking global with national (and local)
EE	- Review NSDS started; preliminary gap analysis by July 2016 - Revision of national SD indicators in light of the SDGs (2016) - Merge SDG and NSDS monitoring *Voluntary reporting at HLPF 2016*	**X**	PMO: Estonian Government Office, Strategy Unit	Multi-stakeholder Estonian SD Commission (rotating chair, CSOs) Inter-ministerial working group (incl. MFA), lead by the Strategy Director PMO	☆ PMO lead, all relevant Ministries ☆ Membership SDC revised to include actors so far missing (e.g. dev't coop.)
FI	- Gap analysis by July 2016 - National implementation plan: will be outlined in the course of 2016, incl. a reform of the national dev't coop. policy (draft: end of 2015). *Voluntary reporting at HLPF 2016*	**X**	PMO (as per 1.1.2016): leading the FNCSD with a small coordination unit	Multi-stakeholder councils (mixed gov't and stakeholders): a) for SD: FNCSD, b) for dev't coop.: NCD Inter-ministerial Coordination Group (body to be renewed), Scientific SD Panel, Society's Commitment to SD	☆ PM lead is supportive; coordination moved to PM office ± Two Councils will continue, but improved cooperation 💣 Reform dev't coop. policy: SDGs only slightly considered

FR	New SDS January 2015: though not aligned with the SDGs, it is seen as tool for national implementation *Voluntary reporting at HLPF 2016*	**X**	2 Ministries: Ministry of Environment, Energy & Ocean; MFA	Inter-ministerial coordination, lead by Inter-ministerial Delegate for SD (=Minister EEO) Multi-stakeholder Councils CNTE (ecological transition) and CNDSI (dev't. coop.)	✰ Task Force of MinEEO and MFA ± Inter-ministerial coordination incl. MFA
LV	- Initial mapping 2015 - Statistics: mid-2016; policy mapping: by late 2016 - NDP MTR 2018: changes from 2021 "Possible renewal NSDS by 2030"		PMO: Cross-Sectoral Coordination Centre		💣 Nothing on SDGs on the MFA website; MFA not part of cross-sectoral coordination?
NL	- Gap analysis on environment-related goals (Lucas et al./PBL, January 2016) - No SD strategy or policy, but many initiatives, e.g. "green deals"	**X**	3 Ministries: Infrastructure & Environment; Economy, Agriculture & Nature; MFA (incl. Dev't Coop.)	Policy: n/a Monitoring: coordinated approach of assessment agencies planned	✰ First MS with a systematic, semi-comprehensive gap analysis on domestic implementation, commissioned by the MFA
SE *	- Gap analysis and setting national agenda (SEI, May 2015 - Launch of SDG implementation in January 2016 - Reports of the 3 analysis groups: spring 2016 - No current SDS (last from 2006)		3 Ministers: Public Administration, Dev.Coop; new Minister for Strategic Development (in PMO) 3 Ministries: PMO; Ministry of Finance; MFA	Planned: National Committee to facilitate implementation and produce a national action plan	✰ First national gap analysis (not commissioned by government) ± new Minister, "SD at the core of the work" (but no coordination function for SDGs) 💣 Established 3 analysis groups: 'Green transition', 'Global cooperation', 'Future of work', but no connection recognisable 💣 SD policies are presented as international issue only, Min. Dev.Coop. responsible ***

Notes:

NDP: National Development Plan; MTR: Mid-term Review; SDI: Sustainable development indicators; SDS: Sustainable development strategy

BE: Belgium, CH: Switzerland, DE: Germany, EE: Estonia, FI: Finland, FR: France, LV: Latvia, NL: Netherlands, SE: Sweden

Dev't coop.: development cooperation; Gov't: government; MFA: Ministry of Foreign Affairs; MoE: Ministry of the Environment; PMO: Prime Minister's Office

Of these countries only NL and SE do not have a SD strategy or a similar strategy such as a National Development Plan (NDP)

* Did not participate/not present at ESDN

** https://www.news.admin.ch/message/index.html?lang=en&msg-id=60066

*** http://www.government.se/government-policy/sustainable-development-policy/

Source: Author

The table shows that:

- Not surprisingly, Members States that already have an 'active' **SD strategy**, that is, underpinned by recognisable governance mechanisms and activities, are also front-running for the new 2030 Agenda. The two exceptions are Austria, which has a strategy but is not yet showing signs of SDG implementation activities, and the Netherlands, which does not have an SD strategy (for background, see Niestroy 2005). The Netherlands has shown rather little engagement in the SD agenda since around 2008, at least on the government side, but is now in the front row with the first systematic gap analysis (Lucas et al., 2016, January). While the analysis covers only the domestic implementation and the environment-related SDGs, it was commissioned by the Ministry of Foreign Affairs, which might show new commitment on the government side to the importance of domestic implementation of the SDGs. Germany is the country that is pursuing its SD strategy in the most stringent way[19], and is most vocal in promoting SD strategies as a valuable tool, also for the EU. Finland is well-known for experimenting with different governance approaches, including its"societal commitments for SD" (Ministry of the Environment, Finland, 2015).

- The **international tracks**, both **domestic-external** and **external**, have so far been rather neglected in the national SD strategies and policies. On the one side this has been due to a natural focus on the domestic SD agenda, but on the other it also stands for the kind of rift between international policies and the rest of the government. Hence it would be expected from the countries front-running on the domestic agenda that they would now work towards bridging to the international tracks. However, even in these countries, the rifts seem difficult to overcome. While some countries have announced joint responsibilities of the departments responsible for the domestic and the international agenda respectively (typically the departments for development cooperation, be it standing alone or within the Ministry of Foreign Affairs), no re-arrangements on the management side can so far be recognised. Also *within* Ministries (for example, the Ministry for Environment) the rifts are rather astounding: Different units are responsible for the national, EU and international tracks, with often limited links between them. It would be highly desirable if those European countries that signed up for voluntary national reviews at the HLPF in July 2016 (Estonia, Finland, France, Germany, and Montenegro, Norway and Switzerland), would also present new governance approaches for better linking the domestic and international tracks.[20]

- In most countries, the indicator systems were introduced in order to measure progress of the respective national SD strategy. Only the Netherlands has a "Sustainability Monitor" without an SD strategy. Along with the international tracks ('domestic-external' and 'external') on the policy side, indicators will also need to be amended in order to better cover these, as well as integrating the SD dimensions in all of them (see Figure 4 above). The global set of indicators currently under discussion can obviously

19 It has monitored its SD strategy as of 2002, measured progress, conducted peer reviews, revised it several times and has maintained it as a central political guidance document for achieving sustainable development.

20 A similar situation can be observed on the stakeholder side, where there are only very few NGOs that deal with both the domestic and the external track and their connection, and/or with issues through a sustainable development lense. At EU level there is an emerging SDG coalition that tries to bring both sides (and beyond) together; http://www.beyond2015.org/sdg-watch-europe-provisional-title.

only be a baseline for individual countries, and it is desirable that the EU further develops the indicator set that is so far used by Eurostat (see below).

Up to now two systematic "gap analyses" have been conducted in EU Member States:

1. For Sweden, already in September 2015 the Stockholm Environment Institute (SEI) published an own initiative report on setting a national agenda for the SDGs (Weitz et al., 2015).
2. In the Netherlands, the Ministry of Foreign Affairs commissioned the Dutch Environmental Assessment Agency (PBL) with an analysis of the environment-related SDGs, which was published in January 2016 (Lucas et al., 2016).

Furthermore, the German Sustainable Development Council (RNE) issued recommendations to the German government in May 2015 on "Germany's Sustainability Architecture and the SDGs" where it points to goal areas that are considered as "specifically addressing Germany's commitment". The RNE matches existing objectives and targets of the German SD strategy with the SDG targets, but not vice-versa.[21] While the RNE's recommendations are hence of limited use for the analysis performed in Section 4, the themes discussed at the stakeholder dialogues are included. For Poland, the Asia-Europe Environment Forum conducted an analysis to evaluate how the country will cope in achieving SDGs in the selected areas: poverty eradication; sustainable development of agriculture; and climate protection, with a view to securing means of implementation and building on existing governance mechanisms (Kassenberg, Karaczun, & Owczarek, 2015). Finland commissioned a 'gap analysis' to be finalised prior to the HLPF 2016.

Other assessments

The following other assessments have also been undertaken and published so far, covering different sets of countries, and applying different approaches and methodologies (see Subsection 3.2 below):

- OECD countries: Bertelsmann study (Kroll, 2015): *Are the rich countries ready*?
- Developed countries: Stakeholder Forum (Osborn, Cutter & Ullah, 2015): *Universal Sustainable Development Goals*
- Developed countries: FES/Global Development Perspectives (2015): *Goals for the rich*, with a typology of goals and illustrative selection of 'do-no-harm targets' (domestic-external)
- Global: Overseas Development Institute (ODI) (Scott, Lucci, & Berliner, 2015): *Mind the gap? A comparison of international and national targets for the SDG agenda*
- Global: International Council for Science/International Social Science Council. (ICSU/ISSC) (2015): *Review of targets for the Sustainable Development Goals: The science perspective*

21 Meanwhile, the draft for a revised German SD Strategy has been published (31 May 2015), with new information on Germany's analysis and priorities. This is not covered in this paper.

- EU/Eurostat: *Sustainable Development in the European Union. 2015 monitoring report of the EU Sustainable Development Strategy* (no relation to/mapping with the SDGs [22])
- EU/EEA: *The European environment: State and outlook 2015* (no relation to/mapping with the SDGs).

Given its most systematic approach as the first analysis with two 'snapshot indicators' per SDG for all OECD countries, the Bertelsmann study is used as starting point for the analysis in this paper (see Subsection 4.1). The Dutch and Swedish studies are analysed in a second step, and the FES study as a qualitative assessment is used as a supporting document. For methodological reasons, the Stakeholder Forum and ODI studies are excluded. The ICSU/ISSC report contributed from 'the science perspective' during the OWG process of developing and negotiating the SDG set. The analysis of interlinkages is used in Section 2. The Eurostat and EEA reports are used as supporting information, for example in cases where only a benchmark can indicate something about the urgency of action.[23]

3.2 Existing gap analyses: coverage and methodological approach

Among the three studies mainly used for the analysis, the **Bertelsmann study** covers all SDGs and all 34 OECD countries. 21 out of 28 EU Member States are OECD members. The **Dutch study** only covers environment-related targets, and identifies 41 out of the 169 SDG targets as directly addressing the quality of the physical environment (such as water, air, climate, biodiversity) or indirectly affecting this environment (such as via agriculture, industry, cities and consumption and production) (Lucas et al., 2016, p. 8). The **Swedish study** combines 'purely technical' information (available official statistics and policy) and expert judgement for the selection of relevant targets (Weitz et al., 2015, pp. 6, 9).

For the selection of the two 'snapshot indicators' per SDG, the **Bertelsmann study** consulted a range of experts, but did not relate to the debate at UN level. The importance of the choice of indicators is well illustrated by this example: The German SD Council states that "Germany ranks among the one-third of countries with the highest income inequality" (RNE, 2015, p. 16), which is based on the so-called GINI coefficient. If the Palma ratio is used, as in the Bertelsmann study, Germany ranks no. 14; this means it is in the upper third. The study presents the ranking of the OECD countries for each indicator and makes a qualitative assessment by comparing the results with the top-running group of five countries. This relative comparison is the main deficit of the approach: As some examples will show, even the performance of the top-runners does not yet tell which level of achievement would be factually necessary. According to its scope, the study provides figures for the OECD average, but not for the EU average. Identifying or calculating the respective EU averages was outside the scope of this paper.

The **Dutch study** maps existing national policy targets (most of which are agreed at EU or UN level) and identifies 25 SDG targets that are fully covered by existing Dutch policy

22 Pisano, Lange, Berger, & Hametner (2015) undertook a mapping of the EU SD indicators as used for the EU SDS monitoring (Eurostat, 2015a) and the EU 2020 monitoring (Eurostat, 2015b).

23 Eurostat also publishes indicator reports for the Europe 2020 strategy (last edition: Eurostat 2015b), which partly overlap with the EU SDS indicators.

targets (including targets for SDG 6 Water, SDG 7 Energy, SDG 15 Biodiversity, and various targets from other goals). 13 targets are only partly covered by existing policy targets, and 3 are not covered at all. The latter concern targets for education on sustainable development in several aspects (Target 4.7, Target 12.8, and Target 13.3). Furthermore, the Dutch and EU policy targets have the year 2020 as a timeline, while most of the SDG targets are orientated towards 2030. The study then uses the results of the Assessment of the Dutch Human Environment 2014 (PBL, 2015), which measures Dutch performance on existing targets, and assesses the policy effectiveness in four categories: the target is a) in reach; b) in reach if the policy is made more robust; c) only in reach if policy is intensified; d) reaching the target requires fundamental review of current policies. The related SDG targets are mapped out in this gap analysis. However, it is underlined that this is not yet an assessment of whether an SDG target is in reach, as national target-setting still needs to take place.

Similarly, the **Swedish study** emphasises that the interpretation of the SDGs and targets is "by its nature a highly political process; data and scientific analysis are an important input, but only rarely point to national targets or means of achieving them" (Weitz et al., 2015, p. ii). The study excludes the 52 targets that relate to Means of Implementation (SDG 17 and all targets listed by letters a, b, c under the sectoral SDGs). For the remaining 107 targets it finds that no targets can be excluded for being inapplicable to Sweden and only 26 can be considered as steadily being achieved. The remaining 81 targets, namely a large majority (76%) are relevant for Sweden's domestic context and are distributed under all 16 SDGs. Many of these targets deal with "salient" national political issues, and some work would need to be done to achieve them by 2030. The study concludes that these findings highlight the universal applicability of the SDG agenda, as it demands "substantial, challenging action in developed, high-income countries like Sweden as well as developing countries" (Weitz et al., 2015, p. 6). Based on this screening, the study identifies six candidates as critical goal areas for Sweden (see Subsection 4.1). In a second step, one or two targets for each of the 17 SDGs are selected: targets that have not been achieved, those that have featured recently on the political agenda; and/or those that have been dealt with more or less successfully and thus offer potential for international learning. These selected targets were then assessed in the dimensions 'trends' (i.e. development of indicators towards the target), 'achievement' (i.e. whether Sweden is close to the target) and 'policy efforts' (i.e. whether appropriate policy measures are in place and being implemented). The analysis in Subsection 4.1 uses the assessment of trends.

None of the studies analyse the domestic-external perspective; the Dutch and Swedish study exclude SDG 17 and with that the external perspective covered to a large extent under this goal (for instance, trade).

Given that the **German** SD strategy is the one within the EU that has seen the most systematic monitoring, progress reports and revisions since its first adoption in 2002, the statement of the German Council for Sustainable Development (RNE, 2015) focusses on recommendations regarding the approach and governance ('sustainability architecture') for the forthcoming SD strategy revision in 2016 in light of the SDGs. It calls for establishing goals and indicators for up to 2030 and beyond. The RNE proposes that the German SD strategy should incorporate those targets of the SDGs that meet the three criteria as introduced in Section 2 of this paper: implementation domestically (with domestic impacts), domestically with external impacts, and externally (with external impacts). In light of this, it revisits the existing 20 objectives and 38 indicators of the SD strategy and recommends

changes for the indicators across all objectives of the strategy: adding 5, removing 11, updating 24 to the 2030 timeline, and gearing 16 towards global responsibility. The objectives are predominantly left in place, very few of them are recommended to be removed or added, and some have been earmarked as gaining importance. As these recommendations apply to the entire spectrum of the existing objectives and indicators, no particularly urgent challenges can be identified for the purpose of this paper. Some indications might be drawn though from the agendas of the regional civil society dialogues that have been conducted by the government in five cities between October 2015 and February 2016 (www.dialog-nachhaltigkeit.de/).

Box 1: Steps to be taken in a gap analysis

1) Mapping/Policy gap analysis: Which national goals/targets already exist, adopted on different occasions and in different contexts, that happen to serve the implementation of the respective SDGs and targets?

2) Comparing existing targets with SDG targets: Existing national qualitative objectives might already be a suitable national differentiation of the respective SDG/target. This is less likely for quantitative targets, inter alia as many SDG targets have a placeholder like 'x%'.

3) Target and policy effectiveness (gap) analysis: An assessment of how effective existing policies have been to achieve existing national objectives (qualitative/trend) or target (quantitative); that is, an assessment of 'distance to target'.

The steps 1-3 result in policy gaps, target gaps and effectivity gaps in relation to existing national targets, and thus constitute a rough picture of likely challenging areas.

4) Closing the gaps and national target setting: Steps 1-3 will already entail an interpretation of the SDGs in the national context, which applies in a more tangible way when it comes to closing the gaps and national target setting.

For these national processes to be started, the Swedish study concludes (Weitz et al., 2015, p. 19):

"No meaningful national implementation plan can be developed without an inclusive, government-led process to interpret the SDG goals and targets, for the specific national context. Such a process has both technical and political dimensions and the complexity of it seems to have been underestimated in Sweden, as it has in many other countries. Interpreting the SDGs at national level ... requires the full engagement of politicians and government ministries and should include dialogue with civil society, academia and the private sector. It needs to be done in a rigorous and politically accountable way, especially since many of the goals and targets raise not just technical challenges but politically contentious issues."

Source: Author, based on Lucas et al. (2016)

4 Challenging policy areas

Among the 'gap analyses' introduced in Section 3, three are most suitable for the aim of this paper: The Bertelsmann study for OECD countries together with the 'gap analyses' in the Netherlands and Sweden, both of which countries rank high in the overall 'world's first SDG Index' as presented in the Bertelsmann study. At the same time, this study has raised political awareness that the universal SDGs also demand implementation in 'rich countries', and this not only on the external track, but also in domestic policies, and for the domestic policies with external impacts. Along with giving a summary of the analysis of these existing 'gap analyses' and other studies (Subsection 4.1), this section also explores examples of SDGs with a strong domestic-external dimension (Subsection 4.2).

The clearest overlap of these studies with regard to challenging areas lies in SDG 12 Sustainable Consumption and Production (SCP) and SDG 8 Economy and Employment, with an emphasis on Target 8.4 resource efficiency. The analysis confirms that the main challenges for the high-income countries lie in the 'middle circle' of the goals (see Figure 2), of production, distribution and delivery of good and services that again depend on an intact natural environment ('outer circle'). Also in the 'inner circle' (well-being, people-centred) some new challenges have been arising, in particular in the area of inequality (SDG 10); this is more common in Anglo-Saxon countries (Keeley, 2015, p. 55), and a more recent phenomenon in EU Member States.

4.1 Analysis of existing 'gap analyses'

In a first step this paper used the Bertelsmann study in order to cover all the SDGs, while the results[24] were underpinned in a second step by an analysis of the studies carried out in the Netherlands and Sweden. Other studies and reports are used as additional information.

Bertelsmann study: Are the rich countries ready?

As outlined in Section 3, the Bertelsmann study selected two 'snapshot indicators' per SDG and developed an overall index and ranking of the OECD countries. The results on 'readiness' for the SDGs are only relative, as the study compares the performance of individual countries with the 'top five' as a benchmark. Having said that, it might well be that in certain cases all OECD (and EU) countries are not doing well compared to what would be needed, for example in light of planetary boundaries. At the same time, as the national differentiation of the universal targets has not yet been carried out, the study indeed provides a first "impression of a country's fitness for the respective goal" (Kroll, 2015, p. 15).

In order to attempt to identify certain 'hubs' of areas where EU Member States are performing rather badly within the set of OECD countries, and as EU Member States represent 21 out of the 34 OECD countries, a simple count was undertaken of those that are ranked in the lowest and second lowest category per SDG and the two indicators used per SDG. It is hence a counterpart to the 'top-runner' approach of the Bertelsmann study, applied to the EU Member States. In most cases, the two lowest categories represent approximately those below OECD average.

A limitation is that seven EU Member States are not OECD members, and are hence not covered in the study (Malta, Cyprus, Croatia, Bulgaria, Romania, Latvia and Lithuania). Nonetheless, it can be expected that their position in the ranking will be somewhere between the neighbouring Southern or Eastern Member States.

Table 3 gives an overview of the position of the 21 EU Member States in the lowest (dark) or second lowest (light) category for two indicators used per SDG. It also shows the total counts in these two categories, per indicator and per SDG.

24 A full analysis can be found as a non-paper at www.ps4sd.eu.

Table 3: EU OECD Member States ranking in the lowest and second lowest category per SDG and respective two indicators used in Kroll (2015)

	Sustainable Development Goals																	
	Poverty	Food & Agriculture	Health	Education	Gender	Water	Energy	Economy & Employment	Infrastructure & Investment	Inequality	Cities	SCP	Climate	Oceans	Biodiversity	Institutions	Means of Implementation
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
AT																	
BE																	
CZ																	
DK																	
EE																	
FI																	
FR																	
DE																	
EL																	
HU																	
IE																	
IT																	
LU																	
NL																	
PL																	
PT																	
SK																	
SI																	
ES																	
SE																	
UK																	
Total (last)	**1**	**3**	**2**	**1**	**4**	**5**	**4**	**3**	**2**	**2**	**5**	**3**	**3**	**5**	**4**	**5**	**6**	**4**	**3**	**5**	**6**	**3**	**3**	**2**	**3**	**3**			**3**	**3**	**3**	**5**	**4**	**1**
Total (2nd last)	**4**	**4**	**5**	**5**	**3**	**6**	**4**	**5**	**6**	**4**	**3**	**3**	**4**	**3**	**5**	**6**	**5**	**5**	**3**	**6**	**3**	**5**	**5**	**6**	**5**	**2**	**1**	**5**	**4**	**5**	**5**	**4**	**5**	**5**
Total	5	7	**7**	6	7	**11**	**8**	**8**	**8**	6	**8**	6	7	**8**	**9**	**11**	**11**	**9**	6	**11**	**9**	**8**	**8**	**8**	**8**	5	1	5	7	**8**	**8**	**9**	**9**	6
Totel per SDG	12		13		**18**		16		14		14		15		**20**		**20**		**17**		**17**		16		13		6		15		**17**		15	

Abbreviations:
AT (Austria), BE (Belgium), CZ (Czech Republic), DK (Denmark), EE (Estonia), FI (Finland), FR (France), DE (Germany), EL (Greece), HU (Hungary), IE (Ireland), IT (Italy), LU (Luxemburg), PL (Poland), PT (Portugal), SK (Slovak Republic), SI (Slovenia), ES (Spain), SE (Sweden), UK (United Kingdom)

Source: Author

The highlights of this analysis are presented below in the order of highest number of countries in the lowest ranks, and along the circle model by Waage (see Figure 2).

Middle circle: SDGs relating to production, distribution and delivery

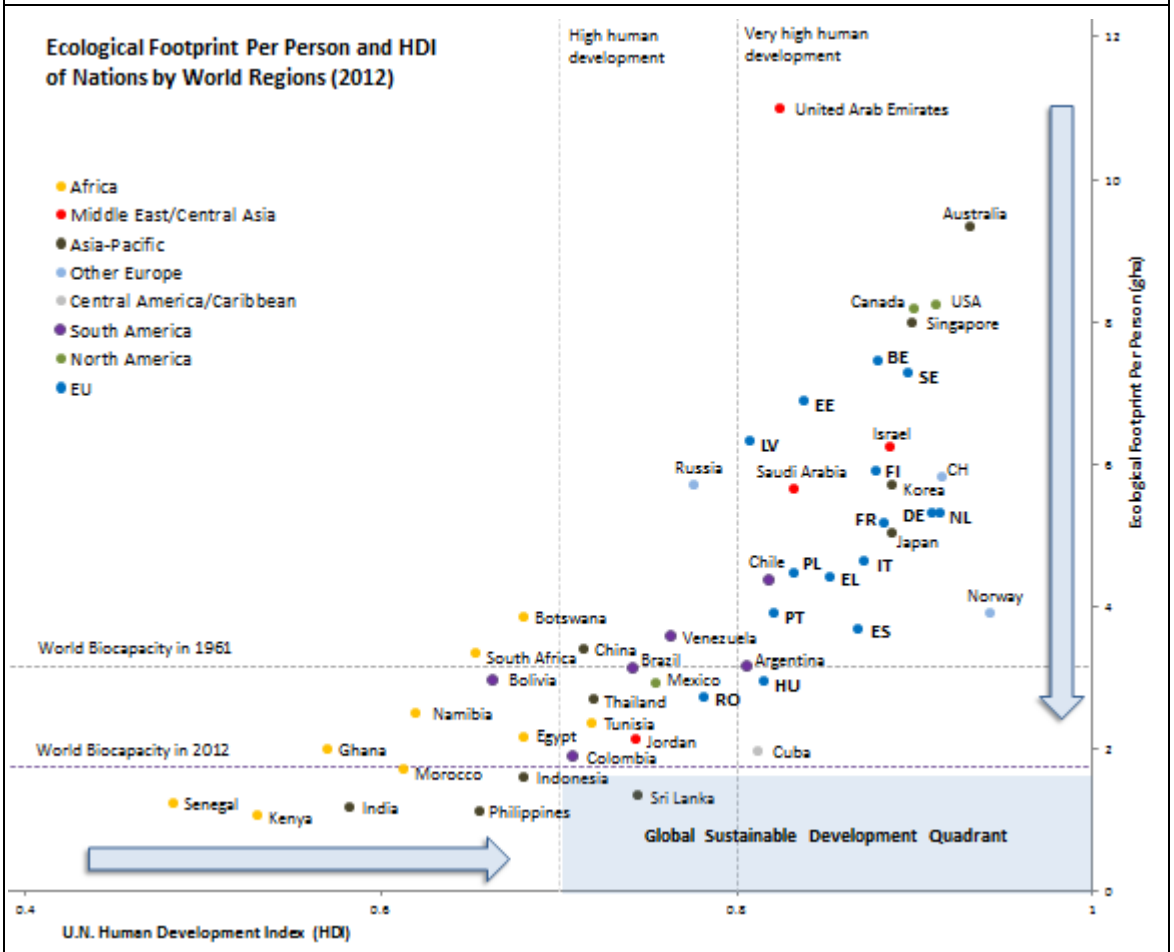
The largest number of EU Member States (20) rank in the lowest categories of the **Economy and Employment SDG 8,** and the **Infrastructure and Investment SDG 9**, with the highest numbers for the *indicators 8.2 'employment to population ratio'*and *9.1 'gross fixed capital formation' (GFCF).* The numbers are also high for the *income indicator 8.1 'GNI (gross national income) per capita'*, which solely applies to Eastern and Southern EU Member States. This means that income inequality in the EU persists despite the support of the Union's cohesion policy for disadvantaged regions. In contrast, the *employment indicator 8.2* also includes Western European countries (BE, FR, IE, and LU). Hence employment can clearly be identified as an area for enhanced action for and across the EU.

This applies even more so to the *investment indicator 9.1*: Here one also finds countries that rank (very) high in GNI (8.1) but in the lowest category for GFCF (9.1). These seem to be notable examples for an investment gap: the share of new value added that is invested, compared to what is consumed, is too low. Outstanding examples the other way round are countries that rank low in GNI (8.1) but at the same time high in GFCF (9.1). Hence, both in the field of R&I expenditure as such and investment in general, room for improvement and policy action is clearly revealed for the EU and across quite many lagging Member States.

This becomes even more apparent when looking at specific areas where investment and R&D (research and development) are required, most notably the **Energy SDG 7**, but also **SDG 12 on SCP** (see below): for *indicator 7.2 'share of renewable energy* in the total final energy consumption' (which corresponds to SDG Target 7.2) there are altogether 14 EU Member States below OECD average.

The **SDG 12 Sustainable Consumption and Production (SCP)** is among the ones where from the beginning of the SDG negotiations eyes have been on the "high consumption societies" (e.g. Lafferty, 2000), however this area is increasingly relevant for middle-income countries as well. It is not only the EEA which concludes that "[e]xcessive use of natural resources jeopardises humanity's safe operating space" (EEA, 2015a, p. 46). And indeed, when looking at the UNDP Human Development Report (2013) where the ecological footprint per person and country is depicted as proxy for consumption against the HDI of each country (Figure 5), it becomes clear: All countries with very high HDI and most with a high HDI have a high or very high ecological footprint that needs to be reduced in order to 'move towards' the quadrant of 'Sustainable Human Development' (UNDP, 2013). For the low- and medium-HDI countries, the pathway would be to increase their HDI without increasing their footprint (see arrows in Figure 5). However the two aggregated indicators have been criticised: the HDI as being too narrow; and the ecological footprint inter alia regarding accuracy of the calculation and an array of assumption (see, for instance, Wiedmann & Barrett, 2010). Despite this, both are valued for their communicative power, and, all in all, the pathways towards the 'Global Sustainable Development Quadrant' can be considered for the time being as an overall proxy for the universal SDGs.

Figure 5: HDI and ecological footprint framework



Source: Adapted from Global Footprint Network (selected countries)

The Bertelsmann study uses as *indicator 12.1 the amount of municipal waste generated*, where eight EU Member States still rank in the two worst categories. Rather surprisingly most belong to the high GNI category (income indicator 8.1), where one would expect that sufficient measures for waste management are in place. This relates to the discussion on SDG 9 about the volume and areas of investment. There has been both a decline of per capita waste generation and of municipal waste per capita since 2004 (EEA, 2015a, p. 90; Eurostat, 2015a, pp. 82, 91), but the reduction rates are considered low. Furthermore Eurostat attributes falling trends to the economic crisis and observes increasing waste generation since 2012. Existing policies still seem to emphasise recycling as an approach, and tend to neglect the top of the 'waste hierarchy', namely prevention and reuse. The improved Circular Economy package (European Commission, 2015f) intends to 'close the loop', (that is, to also include measures on the production side) which would serve the objective of prevention. However, a target for a reduction in waste generation is so far missing – presumably due to difficulties in measuring. This would seem an important area to work on in the future. Moreover, in light of the universal agenda and increasing waste generation in developing countries, it would be important to send the right signals

regarding the waste hierarchy, not least in demonstrating that it is do-able.[25] Waste separation is an important and cost-efficient measure, which also has a very powerful effect on attitudes and behavioural change. "Once people have experienced separating organic waste, they never want to go back to a system without this", as the Danish politician Ida Auken put it (Talk at the Beaulieu Cafe, Brussels, 27 May 2015). The EEA comes to the verdict that "[w]aste management is improving but Europe remains far from a circular economy" (EEA, 2015a, p. 89).

For the second *indicator 12.2 'domestic material consumption' (DMC*[26]*)*, the picture looks similar: two of the EU OECD countries are found in the lowest rank and six in the second lowest. While the development of this indicator in the EU shows an overall decline since 2002, and even stronger since 2008 (Eurostat, 2015a, p. 82), both Eurostat and EEA attribute the latter to the economic crisis. European consumption remains very resource-intensive, which raises questions about the resource intensity of European lifestyles. Efficiency improvements may partially be explained by the relocation of material extraction and manufacturing to other areas of the world. This again points to the crucial domestic-external track for implementing SDG 12 in the EU (see also Subsection 4.2).

To conclude, at EU level SDG 12 requires an integrated perspective on production-consumption systems. The proposed Circular Economy package of December 2015 (European Commission, 2015f) could boost the political attention for this topic. However the Action Programme in the package lacks a mechanism for monitoring progress beyond an evaluation after 5 years.

Inner circle – people-centred SDGs

Among the people-centred SDGs there are many EU Member States in the lowest ranks of the **Health SDG 3**. However, this derives largely from *indicator 3.2 'life satisfaction'*, which might be somewhat questionable as a highly aggregated indicator based on the Gallup World Poll. Another health-related indicator, for air quality, features in the Bertelsmann study under **SDG 11 Sustainable Cities**. *Indicator 11.1 'percent of population exposed to particulate matters'* is also part of SDG Target 3.9 to reduce the number of deaths and illnesses from chemicals and air, water and soil pollution. While in many EU Member States the population on average is not exposed to the WHO threshold used in the study, the number of Member States ranking in the lowest categories is still high. Together with the EEA's conclusions on the environment-health link in urban areas, it is clear that a lot needs to be done to make transport systems in particular more sustainable, as aimed at in Target 11.2 of the SDGs (EEA, 2015a, pp. 124, 128, 131).

Also for the **Inequality SDG 10,** a high number of countries feature in the lowest two categories, especially in the case of *indicator 10.2 'PISA Social Justice Index'* that reflects how inequalities in socio-economic background impact the success of students, that is, it relates to the **Education SDG 4**. Here the figures are also fairly bad for EU Member

25 See, for example, the municipalities organised in the Zero Waste Networks (www.zerowasteeurope.eu).

26 DMC measures the total amount of materials (in tonnes) used by an economy. It is defined as the annual quantity of raw materials extracted from the domestic territory, plus all physical imports and minus all physical exports (Eurostat, http://ec.europa.eu/eurostat/web/environment/material-flows-and-resource-productivity).

States, with eight in the two lowest categories for both indicators (*4.1 'Upper secondary attainment'* and *4.2 'PISA results'*). For *indicator 10.2 'PISA Social Justice Index*' it seems rather alarming that high(er) income countries are found in the two lowest categories, together with – fewer – fairly low-income countries. At the same time, the southern EU Member States are doing better. In the indicator used for income inequality (*10.1 'Palma ratio'*) one finds predominantly southern EU Member States, but also the United Kindom (UK) in the lowest category. The latter corresponds with the findings of an OECD study (Keeley, 2015, p. 55), which also states that the gap between rich and poor is at its highest point for 30 years, with the top 10% now earning 9.6 times more than the poorest 10% (compared to 7.5 times in 1985; Keeley, 2015, p. 11). When one takes absolute figures into account however, the EU in general is doing much better than other OECD countries in the lowest category.

Outer circle – SDGs relating to the natural environment and resource base

Especially for the environment/nature-related SDGs, the problem of the missing benchmarks becomes apparent, and hence the limits of interpreting the Bertelsmann study for the purpose of this paper including the methodological approach of comparing EU Member States with the OECD countries[27]: while within the OECD sample there are only a few indicators where many EU Member States rank in the lowest two categories, by global comparison OECD countries are large emitters and resource users (see also above under SDG 12 on SCP). Here the results of the gap analyses for Sweden (all SDGs) and NL (environment-related SDGs) provide some more insights (see below). Which level of use is sustainable, in terms of strong sustainability and in light of planetary boundaries, is the key question that can be illustrated using the example of the **Food and Agriculture SDG 2,** as well as with the **Biodiversity SDG 15** and the **Water SDG 6**.

The *indicator 2.1 'agricultural nutrient balance'* for the **Food and Agriculture SDG 2** reflects the nutrient surplus (N and P) per hectare of agricultural land in a country. Only two EU Member States are found in the lowest category here, and five in the second lowest. However, here the absolute values are key, given that – globally – the nitrogen cycle is one of the areas where the planetary boundaries have already been heavily exceeded, and the EU is clearly among those putting high pressure on the planet.[28] It is not only the intensive agriculture with high applications of nutrients (that leads to the surplus), but also massive imports of nitrogen through animal feed (in particular soy), whose production again causes huge surpluses in the exporting countries. Besides animal production, increasingly also export-oriented bioenergy production has meanwhile become the other key driver. Science demands a halving of the nitrogen input globally (Vries, Kroes, Kroeze, & Seitzinger, 2013), and for Germany this is likewise requested

27 For the **Oceans SDG 14,** the method applied in this analysis does not lead to comparable results, as the landlocked EU countries do not have oceans in their territory and are hence not included in the measurements. For the *indicator 14.2 'overexploited fish stocks'*, the Bertelsmann study itself refers to the limits of the relative approach by stating that even in the case of the top-runners the figures are "still much too high from an ecological point of view" (Kroll, 2015, p. 81). This means that the EU's Common Fisheries Policy remains an area where further improvement is needed.

28 See the graph "Who is putting pressure on the plant?": Planetary Boundaries with the estimated share of the nitrogen cycle caused by EU meat production (Raworth, 2012, http://oxfamblogs.org/doughnut/); see also: Sutton et al. (2011), Winiwarter, Grizzetti & Sutton (2015).

(Sachverständigenrat für Umweltfragen [SRU], 2015). It can be concluded that the EU's positive trend for the nutrient balance (Eurostat, 2015a, p. 278), namely a reduction of nitrogen and phosphor surplus from 59 kg/ha to 47 kg/ha between 2000 and 2011, is good indeed, but far from sufficient.

The *indicator 2.2 'obesity rate'* seems well chosen for pointing out challenges on the nutrition side in the OECD countries. Here the picture for EU Member States looks quite good compared to other OECD countries, with only one in the lowest category and only five in the second lowest. However, it is also here an issue of the missing benchmark, as one would think of zero obesity as desirable and sustainable. As in particular the meat and dairy production in the EU contributes to the problematic nitrogen surplus, a 'win-win' situation for two objectives under this SDG 2 would seem possible, together with gains for the **Health SDG 3** (see, for example, Wang & Beydoun, 2009). A recent study concluded that a reduction of meat and dairy consumption and production by 50% by would lead to major health benefits, to reductions of around 40% in agricultural nitrogen emissions and of 25-40% in GHG emissions (Westhoek et al., 2015). Furthermore, the EU would import less soy and export more cereals. Together with reducing food waste (Target 12.3), this might also contribute to global food security (Westhoek et al., 2015, p. 8; for doubts on the contribution to reduced food waste, see Tielens & Candel, 2014).

Hence, food and nutrition, in combination with intensive agricultural production causing persistent environmental problems, require urgent and enhanced action. This applies very much for the EU, as agriculture policy is one of the few common policy areas where responsibility and public funding is pooled. Unfortunately, a planned Commission communication on Sustainable Food Systems has so far not seen the light of day, and it would be highly recommendable to take up this work.

This is underlined by the quite high figures for the **Biodiversity SDG 15**. Quite a number of EU Member States rank here in the lowest two categories for *indicator 15.2 'red list index for birds'*, and things do not look much better for *indicator 15.1 'terrestrial protected areas'*. The trends aggravate the picture: The farmland birds index shows a "dramatic" decline both in the long term and even accelerating in the short term (Eurostat, 2015a, p. 263). This is one of the worrying impacts of agriculture in the EU. Similarly, EEA concludes that land use change and degradation threatens soil ecosystem services and drives biodiversity loss, the former largely caused by urban land take (see also **Cities SDG 11**) and the latter by agricultural intensification (EEA, 2015a, p. 59).

In the case of the **Water SDG 6** the figures look better, but not so for the resource use-related *indicator 6.1 'freshwater withdrawals'*. Here also eight EU Member States rank in the lowest two categories, and five in the lowest, with three also in absolute figures likely worrying. However, the chosen indicator does not really reflect the key threats to EU waters: "Water quality has improved but the nutrient load of water bodies remains a problem" (EEA, 2015a, p. 66). There is a link again to SDG 2, with intensive agriculture as key driver for the nutrient load. While *indicator 6.2 'population connected to wastewater treatment'* shows a generally satisfactory picture, it remains disturbing that six countries are found in the two lowest categories (with partly quite low connection ratios), and even one of the rather higher income countries among them. While this relates to **SDG 9 Infrastructure and Investment**, there seems to be no strong correlation however. At least EU structural funds might push here again for respective priority setting.

Studies and analyses for Sweden and the Netherlands

Sweden, the Netherlands and Germany are forerunners in respect to the analysis of the SDGs for their respective country. The first study for national implementation in a high-income country was published in Sweden (although it was not commissioned by the government), while the Dutch study is the most systematic one so far (though only for environment-related SDGs). In Germany, the SD Council (RNE) issued an early statement on SDG implementation. A systematic analysis will be performed for the progress report on the German SD strategy in 2016. An analysis of the Swedish and Dutch study, together with the recommendations of the FES study (2015) and the topics discussed in regional civil society dialogues in Germany, are summarised in Annex 1. The topics were: Global partnerships (SDG 17); Sustainable Economy (SDG 8, as well as 7 and 4); Sustainable Consumption (SDG 12); Sustainable Cities and Infrastructure (SDG 11 and 9); as well as Preventing Poverty (SDG 1 and 10).[29]

The FES study (2015) also argues from the perspective of Northern countries and considers three SDGs to be "indispensable ... for the rich" to pursue: SDG 10 Inequalities; SDG 12 SCP in combination with Target 8.4 on resource efficiency under SDG 8; and SCP 17 Global partnerships. Furthermore this study identifies those SDGs and targets that are important with respect to the planetary boundaries, and gives examples for targets where domestic policies have external impacts.

Based on an indicative screening, the Swedish study (Weitz et al., 2015, pp. 5-9) identifies the following as "possible critical goal areas" for the domestic 2030 Agenda: SDG 4 Education; SDG 8 Economy and Employment; SDG 10 Inequality; SDG 12 SCP; SDG 13 Climate change; and SDG 14 Oceans. In addition it selects one or two targets for each SDG (non-representative) that have not been achieved in Sweden, have featured recently on the political agenda, or have been rather successfully dealt with and hence offer potential for international learning (Weitz et al., 2015, p. 9). For these targets, the policies, achievements and trends are assessed, and Annex 1 depicts those where the trends are assessed as negative ☹ or ambivalent 😐.

The Dutch study (Lucas et al., 2016) maps existing policies to environment-related targets and evaluates their performance. It identifies those targets for which existing policies would need to be intensified (assessment orange) or where a "fundamental review of the current approach" would be required (assessment red). It considers as a main caveat that the ambition levels of existing policy targets and the SDG targets are not always the same, and often difficult to compare (Lucas et al., 2016, p. 21). Furthermore, existing policy targets are generally aimed at 2020, in contrast to the 2030 timeline of the SDGs. For the environment-related targets, the study states that the Netherlands is falling behind on many of its existing policy targets, including international obligations. Targets for air and water quality and nature conservation will only be achieved if policy efforts are intensified, while targets for reducing food waste and environmental pressure on ecosystems require fundamental policy redesign. It is considered rather worrying that progress on various targets has slowed down in recent years, which means that these targets will not be achieved (PBL, 2013).

29 www.dialog-nachhaltigkeit.de/

Identifying the intersection of the three studies with respect to the SDGs that are considered as potentially most challenging is not straightforward, as the Dutch study only takes environment-related goals and targets into account. However, as already indicated in Section 2, the results point in the following direction: large overlaps are found in the 'middle circle' of the production/distribution/delivery goals, most notably for **SDG 8 Economy and Employment** and for **SDG 12 Sustainable Consumption and Production**, where all studies and the stakeholder dialogues see challenges, and for some targets a negative trend (8.4 resource efficiency, Sweden) or the need for fundamental reform (12.3 food waste, Netherlands). Similar overlaps exist for **SDG 7 Energy, SDG 9 Infrastructure and SDG 11 Cities**. Here the Dutch study sees a need for intensified policies for Target 11.6 on recycling of municipal waste, as well as for the related waste Target 12.5.

All but Sweden (ambivalent trend) also see big challenges in the **SDG 6 Water.** For this SDG, the Dutch study finds that fundamental policy reforms are needed for the water quality targets (6.3 and also the related Target 3.9 under SDG 3 Health). This is linked to Target 2.4 on sustainable agriculture under SDG 2 that also features strongly in the overlap view (all but Sweden). Similarly problematic under SDG 6 is Target 6.6 on water-related ecosystems that links to **SDG 15 Biodiversity**, which is addressed as particularly critical in the Dutch study (less in Sweden and FES).

SDG 10 Inequality features as being key in the FES study and very strongly in the Swedish study, with negative trends for Target 10.1 on income distribution and 10.2 on inclusion. Similar negative trends are flagged in Sweden for Target 1.2 poverty under **SDG 1 Poverty**.

4.2 Examples of SDGs with a strong domestic-external dimension

As introduced in Section 2, and touched on in some cases in the meta-analysis of Subsection 4.1, the implementation of the SDGs needs to be followed on three tracks: **domestic** (domestic policies with domestic impacts); **domestic-external** (domestic policies with external impacts); and **external** (external policies with external impacts), with overlaps between them. For all tracks also the impacts of global (mega)trends need to be considered, as well as vice-versa (see Section 2). In this current section two examples of SDGs with a strong domestic-external dimension are presented (SDG 2 and SDG 12, with their crosslinks).

European systems of production and consumption generate diverse environmental, social and economic impacts in third countries: on the one hand supporting livelihoods globally, but at the same time creating significant environmental pressures. Any commodity that is imported and consumed to satisfy demand in the EU has the potential to create impacts 'elsewhere'. For some categories of goods and services, a substantial proportion of final consumption is supplied directly by imported goods. Imports accounted for 87% of EU clothing expenditure in 2012 (rising from 65% in 2005). Imports of electrical and electronic products accounted for 74% of EU consumption in 2012 (rising from 50% in 2007) (EEA, 2015c, p. 33). There are indications that an increasing proportion of the environmental pressures linked to European demand occur in other parts of the world. For example, the share of GHG emissions caused by EU domestic final demand that are

released outside the EU during the production of goods (that are imported into the EU) rose from 13% in 1995 to 24% in 2008 (EEA, 2015c, p. 33).

The most prominent examples of environmental and social impacts in third countries have been imports that cause deforestation and land grabbing, including the secondary impacts of biofuels production (indirect landuse change – iLUC), the impacts of extractive industries including conflict minerals, as well as fisheries (see, for example, Environmental Performance Index 2016). Environmental pressures have been calculated as the footprint for carbon emissions, water and land use for products imported into the EU (Steen-Olsen, Weinzettel, Cranston, Ercin, & Hertwich, 2012).

All this points to global value chains that have become a dominant feature of world trade, creating a "high level of interconnectedness and interdependency, making it very complex to steer changes ... towards a more sustainable world" (Ploumen, 2015). This analysis confirms once more that the SDGs provide a valuable framework to tackle these interdependencies. It points to trade policies, which are typically considered as part of the '**external**' track, but the consumption side shows how strongly rooted they are domestically as well, and hence part of the '**domestic-external**' track.

SDG 2 on food security, nutrition and sustainable agriculture

The EU was the largest net importer of products causing deforestation between 1990 and 2008, and was significantly ahead of other trading powers such as Eastern Asia (including China and Japan) and North America (European Commission, 2013). Consumption in the EU is responsible for 10% of total deforestation 'embodied' in consumption, or 36% of embodied deforestation traded internationally (European Commission, 2013, p. 35). The most important driver of deforestation during that period was the EU's consumption of livestock products, either through the import of feed products or directly through the import of livestock products (mainly meat) (European Commission 2013, pp. 29-30). Given that soy is the crop that accounts for the largest part of feed imports, another study calculated that the EU used 20 % of global soy production (2007), and that the total global land area required to satisfy EU demand for soy was close to 17 million hectares (World Wildlife Fund [WWF], 2015, p. 6). This situation points to the strong relevance for the domestic-external track in SDG 2 on food security, nutrition and sustainable agriculture, and its links to SDG 13 Climate and SDG 15 Biodiversity, for instance.

Environmental pressure related to food production in the EU is usually not mentioned in EU publications on agriculture and development. The 2015 EU Report on PCD only mentions the principle that the EU Common Agricultural Policy (CAP) should avoid adverse economic impacts and minimise distortive impacts on trade and markets outside the EU.

The CAP clearly influences the potential for non-EU farmers to develop a sustainable agriculture. On the negative side, recent EU dairy-sector reforms (particularly the abolition of milk production quotas) are expected to result in the dumping of EU-produced milk and milk products in developing countries, threatening to undermine, for example, existing milk-to-dairy supply chains in certain parts of sub-Saharan Africa (Goodison, 2015). On the positive side, however, there are examples that the raised quality standards on the quality and safety of food in the EU, if adopted by non-EU farmers, can lead to

substantial benefits for small-scale farmers (Asfaw, Mithöfer, & Waibel, 2010). The draft self-assessment of the OECD for PCSD falls short in addressing the wider sustainable development context in the section on food security: Environmental pressure is considered as one of the threats to food security, but the consumption-side within the EU has not been addressed (see OECD, 2015b). The other way round, population growth trends as well as changing diets in emerging economies – in particular towards more meat and dairy consumption – are strong global drivers for this SDG to be tackled when turning global food production and consumption into sustainable systems.

SDG 12 on Sustainable Consumption and Production (SCP)

SDG 12 is the other SDG that has probably the strongest relevance for the domestic-external track (as well as for the external one). This SDG covers in its targets the implementation of the UN 10 Year Framework on SCP (12.1); natural resources management (12.2); food waste and supply chains (12.3); chemicals (12.4); waste generation (12.5); sustainable reporting by companies (12.6); and sustainable public procurement (12.7). All these targets require analysis beyond domestic systems, because of the interconnected global value chains.

The increasing scale and complexity of the production and consumption system create major challenges for policymakers and business, as well as opportunities for innovation. These include (EEA, 2015a, p. 150):

- Consumer choices may lead to undesired environmental and social outcomes, as market prices for end products typically do not reflect the full cost and benefits along the value chain.
- While increased international trade has to some extent benefitted consumers, the complex mixture of environmental and socio-economic costs and benefits along the supply chains also hamper the identification and management of the problems related to European consumption.
- As production-consumption systems serve multiple and partly contradictory functions, change will involve trade-offs. Different actors will hence support or resist change, and potential losers are often more vocal than potential winners (EEA, 2013).
- While government efforts to manage the socio-economic and environmental impacts of production-consumption systems may already face obstacles domestically, the scope to influence of such impacts in other regions of the world is even smaller (EEA, 2015a, p. 151).

An example of such difficulties recently occurred in the Swiss Parliament, which rejected the so-called fair food initiative (24 February 2016), the intention of which was to allow only those goods to be imported that have been produced in an environmentally sound way, taking animal welfare into account, and under fair labour conditions. The Parliament argued that the proposal was not necessary, would lead to higher food prices, and would conflict with international trade law. As the latter argument appears regularly when it comes to such initiatives, it seems that there is a root cause in these trade rules that needs to be tackled.

The Dutch Minister for Development Cooperation Ploumen concluded:

> The opportunities that come with internationally traded goods are a blessing. But the damaging effects of unsustainable production are a curse. ... The most serious environmental and human rights violations tend to occur at the beginning of the production chain. Often in developing countries where monitoring and regulation is lacking. (Ploumen, 2015)

These challenges again point to the need for an integrated approach in order to understand the production-consumption systems better: Which incentives structure them? Which functions do they perform? How do system elements interact? And which impacts do they generate? What are the opportunities to reconfigure them? Examples of integrated approaches include life-cycle analysis, which also helps to prevent improvements in one area being offset by negative changes in others. So far, for example, a certain decoupling has been achieved between household expenditure and global environmental pressures (which declined or grew less than expenditure), mainly caused by improved efficiency in the production of goods and services, rather than by changed consumption patterns (EEA, 2015c, p. 32). Such decoupling has remained limited though, especially through the so-called rebound effect, that is, efficiency gains leading to increasing consumption (EEA 2015a, p. 112). The EEA concludes that "European consumption and production patterns impact both the European and global environment" (EEA, 2015a, p. 40) and that "[r]educing the impacts of European consumption requires fundamental changes in lifestyle, including in the size and location of dwellings, transport systems and diets" (EEA, 2015c, p. 30).

Virtually all global megatrends identified by EEA (2015b) are relevant for this SDG, but especially the following: global population trends, greater competition for resources, urbanisation, accelerating technological change, growing pressures on ecosystems, an increasing multipolar world including governance challenges and diversified governance approaches, as well as the debate about continued economic growth and the limitations of GDP as a measure of human well-being and the sustainability of growth. With the adoption of the proposed **Circular Economy** Package in 2015, the European Commission has shown its ambition to take a holistic approach towards consumption and production which entails taking into account "the full circle" (that is, complete chains), and mentions that the Circular Economy Action Plan will be instrumental in reaching SDG 12 in particular. It also recognises that the domestic-international relation: "The circular economy will also need to develop globally. Increased policy coherence in internal and external EU action in this field will be mutually reinforcing" (European Commission, 2015f).

While environmental considerations need to be integrated also into EU external policies[30], it seems that quite a lot of additional work will be required. In the 2015 report on Policy Coherence for Development, from the whole basket of topics covered by SDG 12 only food was mentioned – and only in connection with food security.

More recently, the 7th Environment Action Programme is the first EU policy to include goals on reducing environmental pressures caused by European consumption, including impacts outside EU borders (EEA, 2015c, p. 31). An EU Action Plan on Deforestation and Forest Degradation – as called for by the 7th Environmental Action Programme – should

30 Article 11 (environmental integration) of the TFEU applies to all EU policies.

aim at rendering the EU's consumption and production more sustainable; helping forested countries to end deforestation and forest degradation; and ensuring that the EU's consumption, investment and production are not linked to illegal activities, corruption and violation of customary land rights and legislation.

5 Linking the SDGs, and focus areas of the EU and the European Commission: still a long way to go?

The SDGs represent an opportunity to tackle Europe's problems in their global context as they provide a universally applicable framework for a sustainable development to be translated into national and regional contexts. The European Commission already took a similar view in its framing of the initiative for a

> new approach to ensure Europe's economic growth and social and environmental sustainability beyond the 2020 timeframe, taking into account the Europe 2020 review and the internal and external implementation of the United Nations Sustainable Development Goals (European Commission, 2015e, Work Program 2016).

Integrating the SDGs into a European strategic framework is no minor challenge: a complex landscape of overlapping and sometimes conflicting policy priorities has emerged. The 2001 EU Sustainable Development Strategy (SDS) has not been withdrawn and is therefore still valid. As the screening in this section will demonstrate, the EU SDS clearly has a broader scope then the Europe 2020 Strategy of 2010, as well as the other overarching EU strategies and initiatives. Also, it already provided a long-term vision with a focus on policy coherence and the decoupling of environmental degradation and resource consumption, and called for a "major reorientation of public and private investments towards new, environmentally friendly technologies" (European Commission, 2001, p. 2). Furthermore, the statement "Our policies – internal and external – must actively support efforts by other countries – particularly those in the developing world – to achieve development that is more sustainable" can be seen as a precursor of what is now framed as PCSD (and was to some extent already attempted by PCD).

The Europe 2020 Strategy focuses on growth that should be 'smart, sustainable and inclusive' (European Commission, 2010). It includes five headline targets and seven Flagship Initiatives. While the Flagships are still floating, they are meanwhile rarely mentioned in Commission publications. The Europe 2020 Strategy was meant to be reviewed half-way through its ten-year period in 2015. A stock-taking Communication (European Commission, 2014) concluded that the EU's environment, economy and social systems faced big challenges and that the EU's economic system "still encourage[d] the inefficient use of resources by pricing some below true costs." On the positive side, it was concluded that the EU's climate change and energy objectives were within reach. The number of people in the EU at risk of poverty and social exclusion had, however, increased. The seven Flagship initiatives had played a role as catalysts for action. The European Semester had provided a credible framework for policy implementation, analysis and monitoring, but needs to become more inclusive. The EU external agenda was considered an important source of potential growth and jobs, but the Communication did not link this to domestic action or to their impacts beyond the EU.

One year later, the new Juncker Commission published the results of a public consultation on the results of the EU 2020 Strategy (European Commission, 2015b). The Commission concluded that the Europe 2020 Strategy was broadly seen as having meaningful objectives and priorities "in the light of current and future challenges". The main new challenge deducted from the consultation was a need to improve the delivery of the strategy through enhanced ownership and involvement on the ground. Critical comments as regards the lack of priority for sustainable development were not considered important enough to be covered in the Communication on results of the consultation.

The Europe 2020 Strategy is still the driver of the European Semester, which currently mainly monitors macro-economic parameters, thus not really covering all Europe 2020 priorities. The announcement in the 2016 Work Programme of a comprehensive "new approach beyond 2020" suggests that the Juncker Commission has lost its appetite to produce a revised Europe 2020 Strategy. This could at the same time be good news for implementing the SDGs into an EU strategic framework. However, to achieve this we should also look at the three other sets of Commission priorities that exist alongside the Europe 2020 strategy (see below): the Juncker Commission's Ten Priorities (2014); the Five Presidents' Report (2015); and the European Fund for Strategic Investments (EFSI, 2015). The following short analysis will show that these sets of priorities, as well as the Europe 2020 priorities and the 2014-2020 European Structural and Innovation Funds (ESIF), are all fairly different, but have one feature in common: they cover the SDGs only in a limited way and some of the SDGs are not covered at all.

The Europe 2020 Strategy

The relations between the Europe 2020 Strategy and the SDGs are projected in Table 4. While it covers – at least in principle – the three dimensions of sustainable development ("for smart, sustainable, inclusive growth"[31]), the Europe 2020 Strategy does not yet address the international perspective, such as the impacts of EU domestic policies on other parts of the world and external policies including development cooperation.[32] Two SDGs – different from the ones in the Ten Priorities (see Table 5) are not covered at all: SDG 2 Food and Agriculture, and SDG 16 Governance, while SDG 6 Water and SDG 11 Cities are addressed at least in a limited way.

31 http://ec.europa.eu/europe2020/targets/eu-targets/index_en.htm

32 The strategy itself includes a chapter on "Deploying our external policy instruments" (European Commission, 2010), which mainly addresses trade and international macro-economic policy coordination, as well as the external aspects of various internal policies (such as energy, transport, agriculture), but this is not followed-up in the priorities or flagship initiatives.

Table 4: The Europe 2020 Strategy (March 2010) and the SDGs

EU 2020: Priorities, targets and flagship initiatives	Sustainable Development Goals *																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Smart growth								X									
Target 1: Employment rate					X			X		X							
Target 2: R&D/GDP ratio								X									X
Target 4: Rate of early school leaving and third level education				X													
Flagship (1): Digital agenda for Europe (digital single market)								X	X								
Flagship (2): Innovation Union			X				X	X	X			X	X	(X)	(X)		X
Flagship (3): Youth on the move				X				X									
Sustainable growth												X					
Target 3: Climate change and energy: '20 – 20- 20 targets'							X		X		(X)	(X)	X				
Flagship (4): Resource-efficiency						(X)	X					X	X	(X)	(X)		
Flagship (5): An industrial policy for the globalisation era									X								X
Inclusive growth										X							
Targets 1. and 4. (repeated)																	
Target 5: Reduce risk of poverty and social exclusion	X									X							
Flagship (6): Agenda for new skills and jobs				X				X									
Flagship (7): European platform against poverty	X									X							

* Brackets indicate possible positive effects on these SDGs through the respective priority, target or flagship.

Source: European Commission, DG RTD (2015)

The Juncker Commission's Ten Priorities

Table 5 links the 'Juncker Ten Priorities'[33] and the SDGs. Two SDGs are not covered at all (SDG 14 Oceans and SDG 15 Biodiversity), and others only to a limited extent (SDG 4 Education, SDG 6 Water, SDG 11 Cities and SDG 12 Sustainable Consumption and Production).

33 https://ec.europa.eu/priorities/index_en

Table 5: The European Commission's Ten Priorities (July 2014) and the SDGs

European Commission Ten Priorities	Sustainable Development Goals *																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Jobs, Growth and Investment	X	X	X	(X)		(X)	(X)	X	X	(X)	(X)						X
Digital Single Market								X	X								X
Energy Union and Climate						(X)	X	X	X		(X)	(X)	X				
Internal Market								X		X							
Economic and Monetary Union								X		(X)							
EU-US Free Trade								X									
Justice and Fundamental Rights					X					X						X	
Migration										X							
EU as a Global Actor																X	X
Democratic Change					X					X						X	

* Brackets indicate possible positive effects on the SDGs through this Priority

Source: European Commission, DG RTD (2015)

The Five Presidents' Report

As Table 6 shows, a more narrow set of priorities was chosen in the 'Five Presidents' Report'[34] on how the Eurozone countries could develop a better economic governance together. This report was prepared by the President of the European Commission, in close cooperation with the President of the Euro Summit, the President of the Eurogroup, the President of the European Central Bank, and the President of the European Parliament. The report focusses on economic, financial, monetary and fiscal issues (topics 1–4), and includes governance as a fifth topic. It contains six references to sustainability (all in the connotation of 'long-lasting'), two to energy (as in 'energy markets'), some on employment and social inclusion, one reference to health systems, and none on any other areas such as poverty, food security, climate, water, resource use and waste, ecosystems and innovation. The term 'environment' only occurs in the term 'business environment'.

34 From 22 June 2015 (https://ec.europa.eu/priorities/publications/five-presidents-report-completing-europes-economic-and-monetary-union_en).

Table 6: Five Presidents' Report Priorities (June 2015) and the SDGs	
Five Presidents' Report Priorities	**Relation to the SDGs**
1. The Nature of a Deep, Genuine and Fair Economic and Monetary Union	Relation to SDG 8; no reference to changing the economic system (e.g. SCP, resource efficiency), but rather business-as-usual.
2. Towards Economic Union – Convergence, Prosperity and Social Cohesion	Part of SDG 8 (decent work for all); some references to social inclusion
3. Towards Financial Union – Integrated Finance for an Integrated Economy	Some relation to SDG 8 and SDG 17
4. Towards Fiscal Union – an Integrated Framework for Sound and Integrated Fiscal Policies	Some relation to SDG 17
5. Democratic Accountability, Legitimacy and Institutional Strengthening	Part of SDG 16 (Governance)
Source: Author	

The European Fund for Structural Investments (EFSI)

In terms of governance, the European Fund for Structural Investments (EFSI) is an interesting experiment. EFSI did not start with a thematic agenda of (macro-economic) priorities but focused on "removing obstacles to investment, providing visibility and technical assistance to investment projects and making smarter use of new and existing financial resources"; it aims at mobilizing new public and private investments of at least 315 billion euros in three years and investing this in the "real economy".[35] The first batch of proposals by Member States contained many proposals that had not passed earlier selection criteria including environmental ones, for example in the context of the European Structural and Innovation Funds (ESIF). Gradually, more private investment proposals emerged. In January 2016, an overview of the investment projects accepted under the EFSI showed that the Fund attracted projects in seven clusters, which seem to align better with the SDGs than, for example, the Juncker Ten Priorities paper: Environment, climate and energy so far cover 39% of all financing.[36] This turns out to be in line with the promise of the Juncker Commission that it would "achieve its economic goals with the building of socially and environmentally sustainable new industries" (First Vice-President Timmermans, in UNEP, 2015b, p. 13).

EFSI investments correspond to real investment needs/opportunities for which until now financing had been cumbersome, and may reflect the fact that a substantial percentage of private investors are already moving towards sustainable development. This corresponds with the fact that sustainable development, energy and climate, circular economy and water scarcity have been prominently on the agenda of the World Economic Forum in Davos in the past years. The governance lesson might be that governments – including the European Commission – could benefit from better watching the changing agendas of the

35 http://ec.europa.eu/priorities/jobs-growth-and-investment/investment-plan_en

36 Next to small businesses with 27%, transport with 19%, digital infrastructure with 10%, and health and innovation with each 3% (EFSI investments – state of play January 2016; http://www.eib.org/efsi/efsi_dashboard_en.jpg).

more long-term thinking part of the business community, as well as of civil society organisations.[37]

The European Structural and Investment Funds (ESIF)

To add to the so far rather eclectic-looking EU approach, the funding priorities of the European Structural and Innovation Funds (ESIF), which is intended to guide public investments from the EU budget from 2014 to 2020, present a different picture again. The ESIF comprises five different funds with a combined budget of 454 billion euros: the European Regional Development Fund (ERDF), the European Social Fund (ESF), the Cohesion Fund (CF), the European Agricultural Fund for Rural Development (EAFRD), and the European Maritime and Fisheries Fund (EMFF). The ESIF have 11 common investment priorities termed Thematic Objectives.[38] In these priorities, several SDGs are not covered, in particular SDG 3 Health; SDG 5 Gender; SDG 10 Inequality; and SDG 11 Cities (although some budget is allocated for this).

The EU Sustainable Development Strategy (2001/2006)

It is not without reason that the screening of the main overarching EU strategies and initiatives in this section closes with the second strategy of this kind in 2001 (after the Lisbon Strategy in 2000, the precursor of the Europe 2020 strategy). In its vision, coverage, understanding of long-term impacts and challenges, and its linkages between domestic and external policies and developments, the EU Sustainable Development Strategy (EU SDS) is by far the closest to the 2015 SDGs among all the strategies reviewed (see Table 7). The EU SDS focused on six main challenges on the basis of an assessment of their likelihood to pose *severe or irreversible threats* to the future well-being of European society, if not tackled (see similar Regional Environment Centre [REC], 2016): global warming; threats to food safety and public health (infectious diseases, anti-biotic resistance, chemicals); waste volumes and loss of biodiversity and soils; transport congestion and regional imbalances; as well as poverty; and ageing. For the first four challenges, 10 new 'headline objectives' and measures at EU-level were adopted, while for the latter two, the objectives and measures as adopted in the Lisbon

37 See, for instance, the proposal to revise the Juncker Ten Points by the European Environmental Bureau (December 2015): Juncker Commission Political Priorities Revisited. http://www.eeb.org/index.cfm/library/juncker-commission-political-priorities-revisited/.

38 1. Strengthening research, technological development and innovation; 2. Enhancing access to, and use and quality of information and communication technologies (ICT); 3. Enhancing the competitiveness of small and medium-sized enterprises (SMEs); 4. Supporting the shift towards a low-carbon economy in all sectors; 5. Promoting climate change adaptation, risk prevention and management; 6. Preserving and protecting the environment and promoting resource efficiency; 7. Promoting sustainable transport and removing bottlenecks in key network infrastructures; 8. Promoting sustainable and quality employment and supporting labour mobility; 9. Promoting social inclusion, combating poverty and any discrimination, 10. Investing in education, training and vocational training for skills and lifelong learning; 11. Enhancing institutional capacity of public authorities and stakeholders and efficient public administration. http://ec.europa.eu/regional_policy/en/policy/what/glossary/t/thematic-objectives

Strategy (2000) were included in an Annex, but considered as integral part of the SD strategy. The EU SDS 2001 also included cross-cutting elements on policy effectiveness.[39]

The revised EU SDS 2006 maintained these six priorities, including a merger of 'Poverty and social exclusion' with 'Ageing society' and adding migration to the new priority 'Social inclusion, demography and migration'. It furthermore added the priorities 'Sustainable consumption and production' and 'Global poverty and sustainable development challenges', as well as two cross-cutting priorities that aim to contribute to the knowledge society: 'Education and training' and 'Research and development'.

The analysis shows the value of pursuing long-term strategies including follow-up and regular reviews. In retrospect, the selection of priorities in the EU SDS was farsighted and robust, as most of them are still (highly) relevant after 15 years. The same applies to the identified cross-cutting elements. What is in particular remarkable is that the domestic-external track has already been addressed ("Take enlargement and the global dimension into account"), and in some areas specifically.

However, the priorities have changed, and only partly due to progress made: The review of the EU SDS in 2009 (European Commission, 2009) shows a mixed picture in progress made, a long way to go in several policy targets, and an ongoing need for action in most priority areas (as do the gap analyses of Section 4). Against this backdrop, the shift in priorities is not fully plausible. A comparison of the EU SDS 2006 priorities and the Europe 2020 flagship initiatives shows that a good number of operational objectives of the former are addressed very poorly or not at all in the latter (Pisano, Berger, Endl, & Sedlacko, 2011, pp. 18-21). Many of those covered to some extent are found in the flagship initiative "A resource-efficient Europe". Sustainable transport and public health have the weakest coverage, as well as global poverty. Again resource efficiency is not included in the Juncker Priorities, but to some extent in the EFSI. The new Circular Economy Package picks up the issue, but addresses sustainable consumption in a rather technical way only. The laudable international track was largely dropped in the strategies and initiatives following the EU SDS but is now back strongly with the SDGs.

In contrast to the EU and the European Commission, several Member States have pursued their SD strategies and reviewed these on a regular basis (see Subsection 3.1).

39 Improve policy coherence and assess the full effects; Use better information (including risk assessment) to assess proposals; Getting the prices right (including the removal of environmentally harmful subsidies); Invest in science and technology for the future; Take enlargement and the global dimension into account.

Table 7: EU Sustainable Development Strategy and the SDGs

EU SDS (2001): priorities and headline objectives	Ext. dim	Sustainable Development Goals																
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
EU SDS revised 2006																		
1. Climate change & use of clean energy #								X	(X)	X		(X)	(X)	X				
Meeting Kyoto commitment																		
Get other industrialised countries to comply	X																	
2. Public health																		
Food safety and quality	X		X	X	(X)						(X)		X					X
Chemicals			(X)	X			X						X					X
Infectious diseases and resistance to antibiotics	X		(X)	X			X											
3. Natural resources																		
Break links between economic growth, resources use and waste generation #							(X)	X	X			X	X	X	(X)	(X)		
Protect/restore habitats & halt biodiversity loss by 2010			X				X									X		
Ensure sustainable fisheries, ... , both in the EU and globally	X														X			
4. Transport & land-use																		
Decouple transport growth from GDP growth									X			X	(X)	(X)				
Change of model split									X			X	(X)	(X)				
Balanced regional development, reducing disparities		(X)	(X)						(X)	X	X					(X)	X	X
5. Poverty & social exclusion																		
Eradication of poverty #		X									X							
Employment rate #						X			X		X							
Education young people #					X													
6. Ageing society																		
Pension / health care systems, inter-generational solidarity				X							X							
Public debt and social protection systems									X		X							X
Employment rate of 55 plussers #									X		X							
6. SCP	(X)		(X)				(X)	(X)	(X)	(X)		(X)	X	(X)	(X)	(X)		
7. Global poverty and SD	X	X																X

Objectives/targets also in the Europe 2020 Strategy; mapping taken over from Table 4.

Source: Author

6 Conclusions and recommendations

This paper has attempted to identify areas in which the EU and its Member States are facing specific challenges regarding the implementation of the 2030 Agenda, and where the need for action is particularly large from the perspective of the tracks: domestic, domestic-external, and external. Against the backdrop of the Treaty obligations that the Union shall work for the sustainable development of Europe (Art. 3(3) TEU) and the environmental integration requirement (Art. 11 TFEU), the 2030 Agenda provides ample opportunities to move towards a sustainable development, also in light of global interconnectedness. Conclusions and recommendations with a special focus on the EU with regard to approach and governance (6.1); challenging policy areas to be pursued (6.2); and the EU future strategies (6.3) are presented here.

6.1 On approach and governance

Undertaking a systematic mapping of goals, targets and gaps

As a first step, moving towards implementation of the 2030 Agenda requires a systematic mapping of all goals and targets against the background of EU and national policies and targets in place (along with identifying missing ones), as well as an analysis of 'distance to target' and the effectiveness of existing policies.[40] This is necessary because of the comprehensive nature of the set of SDGs and the interlinkages between the goals and targets, which at the same way reflects the systemic – and often persistent – nature of many environmental challenges and their strong interdependencies with economic and social ones.

The EU should give priority to a policy and effectiveness gap analysis: all 28 EU Member States and the Commission have committed to starting to implement the SDGs as of January 2016, and it would be against the EU's own principles of 'Better Regulation' (2015) to decide on new policies without ex ante evaluation and analysis.

Identifying interlinkages of SDGs and targets

In order to improve integration, a nexus approach should be followed, as is also adopted by the Global Sustainable Development Report (GSDR). Identifying the interlinkages of the SDGs and targets and breaking down the complexity in a digestible way, remains to date like cracking the conundrum and a key challenge for (political) communication – even more so addressing the trade-offs and political decisions through which to reconcile them.

Horizontal coordination and policy integration should be reinvigorated. This will require the establishment and maintenance of governance structures to ensure such integration and to overcome the traditional silo approach, both at EU- and at Member State-level. A good balance needs to be found between the strengths and weaknesses of a division of tasks and integrated approaches. For this reason, a nexus

40 This paper has only analysed existing studies/'gap analyses' and has not performed an analysis of primary data.

approach should always form part of a broader governance concept that keeps all tools within reach (for instance, with a metagovernance approach). Such a broader, not-'one-size-fits-all' approach is also the central principle of the European Commission's online Toolbox on the Quality of public administration (2015).[41] Division of work, as the classic way of operating in public administrations, is deemed as most efficient and effective, but also leads to 'silos'. Within the European Commission, a 'pecking order' exists where environment and development are both found in the lower ranks. This also applies to competition between sectoral Council formations, and the EP with a division of Committee tasks. A pillarised structure is not capable of tackling complex issues and interlinkages across policy areas. Hence, joint work of different departments (and also beyond the borders of administrations) has become a prerequisite if results are to be delivered. Work forms beyond inter-service consultation, such as matrix organisation and process management, should be further pursued. At the same time, adopting a dogmatic principle of linking everything with everything can lead to complicated and time-consuming consultation, whereas 'good old bureaucracy' may deliver faster and smoother.

Deciding on national and EU-level specific but connected SDG objectives with appropriate governance

Once the policy gaps, targets gaps and effectiveness gaps are known, it will be necessary for each country – and the EU where applicable – to establish its own SDG objectives (qualitative) and targets (quantitative), merged into and streamlined with existing national/EU targets. This will be because a) there are no policies/targets to (fully) cover the respective SDG areas; b) the SDG target is qualitative or has a quantitative place holder (such as 'x%') and needs to be specified for each country, unless an existing one already matches; and c) there will be areas considered as not, or less, relevant for a particular country, and/or priorities are established for most urgent actions, largest 'distance to target' and/or most persistent problem.

Target-setting at national level is differentiating the universal agenda and should also include a reflection on the governance environment and its cultural influences along with possible adjustments of the institutional setting and other elements of a functioning governance for SD such as market and network mechanisms (see, for instance, Niestroy, 2015). Taking care of governance arrangements is critical if the implementation of the SDGs over the next 15 years is to work: here a reflexive learning process should be foreseen.

The EU should establish an excellent multi-level, multi-sector and multi-actor governance process that is transparent, inclusive and reflexive, and stimulates sharing of inspiring examples. This should link up with emerging initiatives, such as that of the EESC and the NGO community, and with business organisations and think tanks. **Both bottom-up multi-stakeholder partnerhships and governments setting frameworks are required.**

41 https://ec.europa.eu/digital-agenda/en/news/quality-public-administration-toolbox-practitioners

Enhancing ownership and policy coherence amongst and between the domestic, domestic-external and external tracks

Pursuing the three parallel tracks identified (domestic, domestic-external, external), with the aim to achieve greater policy coherence is another key challenge in institutional and procedural terms. Bridging the domestic and external policy domains and arranging for respective institutional settings seems to be a particularly hard nut to crack. While the comprehensive SD agenda underlines that global and national problems need to be addressed in a systemic way, the arrangements for PCD have not lived up to this so far. There is a need to step up the ongoing deliberations on integrating the SDGs into PCD, as up to now PCD only covers parts of the SDGs, is a somewhat siloed approach, and is not well-connected to the domestic dimension of sustainable development. **The core of a PCSD should continue to maintain the PCD focus on the domestic-external track, but it should do this through the lens of sustainable development on both the domestic and external sides.**

It should be paramount for the EU and its Member States to engage in conceptual efforts to turn PCD into PCSD. Governance arrangements need to be reviewed in order to dynamise the process, support more connectedness and overcome resistance to joint responsibilities as well as to provide for more bottom-up approaches.

Those Member States which have already pursued horizontal policy coordination for SD and worked on improving their institutional settings for a certain time are now also better off vis-à-vis the domestic-external track, as are countries with a more collective decision-making culture. This also applies in principle to the European Commission, and the new coordination structure with five project teams led by vice-presidents is meant to ensure that the College works together in a close and flexible manner. However, even among countries that are frontrunners in governance terms, only a few appear to have taken some steps on the domestic-external link (see Section 3). It might be a useful approach in certain Member States if individual departments were to elaborate their own SDG strategies, as used to be done in the United Kingdom for example, and as was proposed by the German SD Council; this could trigger ownership in the agenda (RNE, 2015, pp. 19, 27, 35). In any case, as has been true for SD efforts in the past, the 2030 Agenda requires leadership from the top. It needs to be 'Chefsache' (engl. 'a matter for the highest level') as is already successfully in place in some Member States (such as Germany and Finland). In the Commission, the responsibility of the First Vice-President for sustainable development – only added after pressure from the European Parliament, Member States and civil society groups – goes into the right direction.

Most effective would be a Commission-wide task force on implementing the SDGs domestically and externally, by broadening the existing collaboration between DG DEVCO and DG Environment to include the economic (DG GROW, DG ECFIN), research and innovation (DG RTD) and social (DG EMPL, EAC) sectors, as well as those responsible for major investments (DG REGIO and AGRI) and for the external dimension (DG DEVCO, EEAS). Such a task force would be able to detect when sectors are not willing to 'leave their comfort zone' as well as bring 'win-win' options or difficult trade-offs to higher levels without delay. Under the political responsibility of Vice-Presidents Timmermans and Mogherini, a shared lead by the Secretary-General of the Commission (responsible for coordination of SD) with a core group of the DGs seems appropriate.

Strong political leadership also requires that administrative capacities function sufficiently as implementation might otherwise be weakened. In the meantime, the Secretariat-General has taken up the lead of an Interservice Steering Group on Agenda 2030 implementation, although no dedicated entity is recognisable for the coordination of Commission-wide support for the First Vice-President's tasks.

Action at EU-level and policy coordination between the EU and Member States

Enhanced action will be appropriate at EU-level and/or in the Member States, depending on EU's competence and in light of the subsidiarity principle. A two-level coordination seems to be most desirable for the EU across the board, as the SDG framework emphasises an integrated approach that applies to the goals, the three basic dimensions of sustainable development, and the three tracks domestic, domestic-external, external, as introduced in Section 2 (see Figure 1). This was already introduced once for areas with no or fewer competences of the EU, in the form of the Open Method of Coordination (OMC). This approach was also at the heart of the Europe 2020 Strategy, which was conceived in such a spirit "as partnership between the EU and its Member States".[42] However, there is also room for improvement in areas *with* EU competence, in particular on the implementation side. A partnership approach is planned here, for example through the new Environmental Implementation Review initiative of the Commission, which aims at stimulating Member States to find innovative solutions to persistent implementation problems, beyond and in addition to classical legal enforcement, and could also cover the most relevant environment-related SDG targets.[43]

The pragmatic, problem- and solution-based approach of the European Semester might be highly appropriate for monitoring and guiding the implementation of the SDGs. The European Semester has been by and large a successful governance framework for national implementation of the Europe 2020 Strategy, and might therefore also be used as (part of a) mechanism for coordinating the SDG implementation and bringing the Member States' reporting together at EU-level (see Hackenesch et al., 2016).[44] Its current macro-economic focus would need to be widened. The alternative to linking SDG monitoring and reporting to the Semester would be to establish a separate governance mechanism for the SDGs. This may lead to an institutionalised disconnection between SDGs and the main economic and social EU governance, which might result in frequent conflicts between the two mechanisms in terms of policy coherence.

42 Taking stock of the Europe 2020 strategy (European Commission, 2014, p. 3). On the social side there has been, for example, the European platform against poverty.

43 See EIR Roadmap http://ec.europa.eu/environment/eir/index_en.htm.

44 As the annual European Semester cycle is in fact co-governance of Council and Commission (for instance, the Semester recommendations are in the end adopted by the European Council while the Member States report annually by way of updates to their National Reform Programmes), since the start in 2011 a pragmatic practice has evolved which is more problem-based than competence-based. In this shared governance framework, subsidiarity issues remain in the background: the Semester tackles various topics for which the European Commission has no or only weak competences, such as national tax systems, environmentally harmful subsidies, education and employment, and other social policies.

Tracking progress on implementation: measurement and indicators

Next to the governance issues of how to tackle problems in a more integrated way and to operationalise the interlinkages of the SDGs and targets, challenges also arise in connection with measuring and indicators. Identifying a global set of indicators is strongly determined by the criterion of data availability.

However, OECD countries must a) not fall behind their existing targets and indicators, and should b) advance in developing more integrated indicators for the nexus approach. Cluster indicators might eventually replace the HDI-footprint framework. For the time being, however, this remains valid as a proxy for illustrating the desired development direction towards the "Global Sustainable Development Quadrant" of high-, middle- and low-income countries alike (see Figure 5 in Subsection 4.1.) and, with that, as illustration of the universal SDGs.

Keeping the long-term perspective in mind when prioritising investments

For implementing the SDGs domestically and externally, global megatrends are important drivers influencing any policy action (and vice-versa). The European Commission and the Member States need to take the long-term perspective, inter alia by using analytical work on global megatrends and foresight work[45] when preparing new policies, implementing or overseeing implementation.

Taking a long-term perspective is necessary to create political awareness that today's investments are essential for effecting the long-term transitions we need, in two ways: a) Investments in environmental and other infrastructure usually take a long time to deliver results (long 'lead time'), so investment decisions need to be selected carefully, and b) wrong investments may lock in existing technologies, limit options, or hinder the development of substitutes (EEA, 2015a, p. 161).

6.2 On challenging policy areas to be pursued

From the analysis carried out in this paper, several conclusions can be drawn for policy areas where recalibrated or reinvigorated action of the EU and its Member States would be required to tackle the problems at stake in the identified three tracks domestic, domestic-external and external:

The strongest overlap in the gap analyses examined lies in SDG 12 on sustainable consumption and production, with Target 12.3 on food waste underlined, **and SDG 8 Economy and Employment**, with an emphasis on Target 8.4 resource efficiency. In a nutshell, the analysis confirms that the main challenges for the high-income countries lie in the 'middle circle' of the goals (see Figure 2): the production, distribution and delivery of goods and services that in turn depend on an intact natural environment ('outer circle').

45 For instance, by the European Environment Agency (EEA 2015a); foresight work by the DG Joint Research Center, DG RTD and others (see also the announced integrated assessment "The World in 2050" by IIASA, SEI, Columbia University, SDSN, Alpbach-Laxenburg Group; http://www.iiasa.ac.at/web/home/about/news/150312-World-in-2050.html).

In the 'inner circle' (well-being, people-centred) as well, some challenges have been arising, in particular in connection with inequality (SDG 10) which has increased in particular in Anglo-Saxon countries (Keeley, 2015, p. 55) and is a more recent phenomenon in EU Member States in general.

Beyond SDG 12 and SDG 8, three thematic areas come across as priority areas to work on: SDG 9 (Infrastructure and Investment) and its linkages with five other SDGs; SDG 10 (Inequality), linked to four other SDGs; and SDG 2 (Food and Agriculture) in connection with three other SDGs.

Firstly, one clear result is a lagging of quite a large number of OECD EU Member States with regard to **SDG 9 (Infrastructure & Investment)**. This also applies to countries that rank fairly high in GNI and thus points to an investment gap. When taking other lagging indicators into account, investment in infrastructure and R&D expenditure would be most effective in areas that also serve other SDGs, such as:

- **Water (SDG 6)** (for instance, a lack of wastewater infrastructure – a translation of Target 6.2),
- **Energy** (**SDG 7)** (especially renewable energy – Target 7.2),
- **Cities** (**SDG 11)** (especially sustainable transport (Target 11.2) and municipal waste (Target 11.6), but also energy efficiency in buildings and refurbishment of buildings in order to reduce land consumption), and
- **SCP** (**SDG 12)** (circular economy, waste – Target 12.5, and especially food waste – Target 12.3).

The role of science, technology and innovation (STI) for the SDGs in general needs to be strengthened and the STI potentials exploited, also with the aim of supporting behaviour change as part of **SDG 12**. **Target 9.5** should be fully exploited with social innovations as a key element (EC, DG RTD 2015).

There is a quite large overlap in gaps analysed for **Energy SDG 7**, while the **Climate Change SDG 13** received rather 'sunny' assessments both for the trends and the current level of objectives. It is clear however that, at the latest in light of the COP21 agreements, both areas will require bigger steps towards transitional change. Furthermore it would be recommendable to provide better links between the two within an EU framework for the SDGs than was done in the set of SDGs itself.

A second quite clear challenge is identified for the **Inequality SDG 10**, for the aspects relating to the **Education SDG 4,** as well as for the related employment aspects of the **Economics and Employment SDG 8**, and similarly for the related **Gender Equality SDG 5**. Sweden also flags negative trends for Target 1.2 under the **Poverty SDG 1.**

The third area of enhanced need for action identified is the **Food and Agriculture SDG 2**. Especially on the side of agricultural production, the need for a shift is large, given its significant negative impact on other SDGs, such as the **Water SDG 6** and **Biodiversity SDG 15**. In the Netherlands, the water quality Target 6.3 (also in relation to Target 3.9 under **Health SDG 3**) and the Target 6.6 on water-related ecosystems (relating to SDG 15 Biodiversity) have been identified as areas where a fundamental change in the current

approach would be required to achieve existing policy targets (determined by both EU and national policy).

There is also a link between the **Food and Agriculture SDG 2** and the **Health SDG 3** in high-income countries (and rising in middle-income countries), given unfortunate nutrition patterns, which also results in high obesity rates. 'Win-win' approaches are in reach, even if they seem difficult to pursue. Efforts to improve the sustainability of the food chain might now be riper for success, as the awareness of healthy food has increased greatly and behaviour change has already begun. This should be taken advantage of and further supported, whereever related measures are possible, such as public procurement or catering for public venues. Meat and dairy consumption is also of particular relevance when it comes to the impacts in third countries such as deforestation. Reducing this consumption would hence be particularly effective for several objectives, including lowering agricultural nitrogen and GHG emissions, aligning with health recommendations and, together with reducing food waste (Target 12.3), possibly also contributing to global food security.

Food consumption is one aspect of the area **SDG 12 Consumption and Production** – the core challenge for 'high-consumption' countries. It requires enhanced action both on the production and the consumption side, as is now foreseen in the 'Circular Economy package' of the EU. This calls for strong support in its implementation from the viewpoint of the universal SDGs, and has the potential to serve as a role model for emerging countries to follow. The domestic-external track is particularly strong in this SDG, as most of the EU's consumption and production depends on imports of raw material from other, and largely developing, countries (see Subsection 4.2).

Finally, on **SDG 16 Institutions/Governance** as well, not everything looks rosy in the EU: also here corruption is at a level that cannot be neglected. As this has a strong impact on the implementation capacity in all other goal areas, governance issues require special attention. This matches the EU attempt for 'Better Regulation', which must be used as a true vehicle for governance beyond legal instruments, and with a broader 'toolbox'.[46]

As **SDG 17** not only covers 'global partnerships' but also a broad range of "Means of Implementation"[47], it seems difficult to use just very few proxy indicators – if possible at all. The percentage of ODA alone is not appropriate, in particular as means of financing are meant to be broadened. For the EU, this will in any case be the subject of debate within the context of the review of the European Consensus for Development.

6.3 Walking the talk: towards a Sustainable Development Union

As 'every disadvantage has its advantage', the current 'priority confusion' could be pushed into a direction that is beneficial to a full and comprehensive implementation of the SDGs. When one considers recent statements by First VP Timmermans, VPs Katainen

46 For instance, metagovernance as tool for 'common but differentiated governance' for SDG implementation (Meuleman & Niestroy, 2015).

47 Including the finance for development aspect, policy areas such as trade, as well as the coordination vehicle 'Policy Coherence for Sustainable Development' and capacity-building in general.

and Georgieva, and VP/HR Mogherini, there is some hope that these Vice-Presidents of the European Commission will 'walk their talk'. As far as the link between the domestic and external agenda is concerned, there are in any case still miles to go, inter alia, as most of the Commission's priorities do not take this track into account. While the Commission is facing difficult times and wants to become "more modest", "concentrating on a few important issues that we can only solve together ... such as the migrant crisis, energy supply and the digital internal market" (Timmermans, 2016), this clearly also applies to the required path of transformation. It is encouraging to hear the words of Dutch Minister Ploumen, who is coordinating the SDGs during the country's EU Presidency in 2016:

> We urgently need to transform the way we produce and consume. … If consumers demand sustainable products ..., the EU is the place to make this happen. ... The EU needs to create better coherence between development and trade policy. With a focus on sustainable value chains and responsible business conduct. (Ploumen, 2015)

The SDGs provide a framework and a reference point for long-term orientation. Their implementation will require one or two overarching strategies. Such long-term strategies serve continuity and support the pursuit of persistent challenges. The comparison in this paper of the EU SDS and more recent strategy and priority-setting EU documents, including the EU 2020 Strategy and the Juncker Ten Priorities, shows that fifteen years after its adoption **the EU SDS is still by far the best point of reference for a new strategy** for SDG implementation in the EU and its Member States. In order to link the domestic and external implementation of the SDGs in an appropriate way, the work on the EU Global Strategy and the "new approach beyond 2020", as two likely overarching strategies, should be pursued simultaneously, and not subsequently. The same applies to the revision of the European Consensus for Development and its links with the "new approach beyond 2020".

All strategies require underpinning governance mechanisms for monitoring progress and reviewing priorities. Overarching strategies require leadership and, with this, review at the top. Along these lines, it was foreseen that the EU SDS be reviewed annually at the Spring European Council. This mechanism did not fully come to life, but the annual European Semester cycle, as introduced for the EU 2020 Strategy, has proven a successful governance mechanism with a similar revision by the Head of States. The promised integration of the 2030 Agenda in the Commission's "new approach beyond 2020" may become a time-consuming battle between vested interests. This quest can only deliver the needed outcome if it is guided by strong political leadership by the Commission and the 28 national governments, supported by the European Parliament, and with the appropriate pressure from business and civil society groups.

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Annex 1: Summary of the results of the gap analyses performed for Sweden, the Netherlands and by FES with respect to challenging policy areas

NL: Summary of the particularly challenging targets (assessment orange or red), and likely for the respective SDG (with the national targets to be filled in), and:

SE: possible critical goals areas for the domestic 2030 agenda, and those targets from the selection of 24 where the trends are assessed negative ☹ or ambivalent 😐

SDG	SDG target	NL: National policy exists (partly with targets)	
SDG 1 Poverty	1.2 half people in poverty 1.4 rights and access		☹ 😐
SDG 2 Agriculture	2.3 productivity		☹
--	2.4 sustainable agriculture 2.4 (also 3.9 and 6.3) 2.4 (also 6.3)	Manure production / Nitrogen Nitrate in top groundwater Pesticides in surface water	
SDG 3 Health	3.4 non-comm. diseases		😐
--	3.9 (see also under SDG 2)		😐
SDG 4 Education **	4.4 technical +vocat. skills		😐
--	4.7 knowledge for SD	no policy/target	
SDG 5 Gender	5.2 violence		😐
SDG 6 Water	6.6 (see also under SDG 15)		😐
--	6.3 (and 3.9) (see also under SDG 2 and 15)	Quality of surface waters	
SDG 7 Energy	7.2 renewable energy	Renewable energy	 😐
	7.3 energy efficiency	Energy savings	
SDG 8 Economy **	8.4 resource efficiency	(only partly covered)	☹
	8.5 employment		😐
	8.8 labour rights *		
SDG 9 Infrastr. & Innov.	9.5 research + techn. capacity		😐
SDG 10 Inequality **	10.1 income distribution 10.2 inclusion 10.7 migration *		☹ ☹
SDG 11 Cities	11.2 sustainable transport		😐
--	11.6 (see also 12.5)	Recycling of municipal waste	

SDG 12 SCP **	12.2 resource efficiency *		
	12.3 food waste	Food waste	
	12.4 chemicals *		
	12.5 waste		
SDG 13 Climate **	*(13.3: pos. trend)*		
SDG 14 Oceans **	14.1 marine pollution		
	14.3 ocean acidification *		
	14.4 overfishing *		
	14.6 fishing subsidies *		
SDG 15 Biodiversity	15.2 forests		
	15.1, 15.2, 15.3 (and 6.6) 15.5 (and 6.6) 15.1, 15.5 (and 6.6) 15.1, 15.2, 15.3, 15.5 (and 6.6)	Pressure on nature Maintenance of habitats Nature network / abandon barriers Quality of ecosystems	
	15.6 benefit sharing *		
SDG 16 Institutions	16.4 illicit financial + arms		
SDG 17 Global partnerships			

Legend:

Left column:	**bold**	NL study
	grey shaded	SE study: derived from assessment of trends
	**	SE study: 'possible critical goal areas'
	italic	*only in SE study*
	--	no priority in SE study
	underlined	DE stakeholder dialogues
		FES study; * examples for domestic policies with external impacts

Source: Author, based on SEI (2015), Lucas et al. (2016) and FES (2015)

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