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SEEING THE WHOLE

Implementing the SDGs in an Integrated and Coherent Way

A RESEARCH PILOT BY STAKEHOLDER FORUM, BIOREGIONAL AND NEWCASTLE UNIVERSITY

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ABOUT US

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Bioregional www.bioregional.com - Bioregional is an international charity and award winning social enterprise championing a better, more sustainable way to live. We work with partners around the world on sustainable consumption and production in the communities in which we live and through products and services. We call our approach One Planet Living. Bioregional is Global NGO Focal Point for UNEP's 10 Year Framework of Programmes and a member of the Sustainable Building & Construction Programme MAC.

Newcastle University www.ncl.ac.uk - Newcastle University is a public research university located in Newcastle upon Tyne in the North-East of England. It is a member of the Russell Group, one of 24 leading research universities in the UK and has a global reputation for academic excellence. We emphasise that the primary feature of a civic university is its sense of purpose - an understanding of not just what it is good at, but what it is good for.

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There are many interlinkages between the 17 Sustainable Development Goals (SDGs) and their 169 targets adopted by the United Nations in the 2030 Agenda for Sustainable Development. This study seeks to offer methods and analysis to aid in the implementation of this universal and integrated agenda whist also upholding those two characterising principles.

With support from the Government of Finland, Stakeholder Forum, Bioregional and the University of Newcastle have formed a research team to undertake a study of the implications of SDG implementation in developed countries through an in-depth analysis of the Sustainable Consumption and Production (SCP) SDGS (SDG 12). This report is the output of that study and is comprised of two separate but related components:

- ***Interlinkages (Section 2)** - This section proposes a method of analysis to classify the nature and strength of interlinkages between SDGs targets in order to help create more integrated and coherent packages of policies and measures to aid in the implementation of the SDGs. Given this is a pilot study, only the SCP SDG is used for this analysis with interlinkages between SDG 12 and other SDGs explored.*
- ***SCP in the EU (Section 3)** - This section seeks to improve provide an understanding of the current state of European Union (EU) action in respect of SCP. In order to ascertain how far the EU is implementing SCP, research was undertaken to collate what current EU legislation/policy exists, identify any areas it could improve upon and highlight any gaps.*

While these two sections are not directly related, together they connect ways in which to understand how to implement the SDGs through integrated policy-making. Section 2 offers a method for developing new policies, building on what is already in place to both raise ambition and provide greater policy coherence. Section 3 explores and discusses the existing EU policies in relation to SCP offering an examination of a specific region's current status on the SCP theme as an example. Understanding both themes and how they connect will be crucial to successful implementation of the SDGs.

1. INTRODUCTION

This study addresses the complex question of how the Sustainable Development Goals (SDGs) adopted by United Nations (UN) Member States in September 2015 should be implemented in an integrated way.

Two features of the SDGs are fundamental to their implementation – the fact that they have been created as universal objectives, applying to all countries; and that they have been created as an indivisible package of goals and objectives all of which need to be pursued in an integrated way.

In an earlier report Stakeholder Forum (SF) analysed the implications of the geographical universality of the SDGs and in particular the transformational challenge they represent for the countries of the developed world as well as the developing world, using European experience and challenges as the main test bed for the analytical approach adopted. That report identified the challenge of sustainable consumption and production (SCP) as the single biggest transformational challenge amongst the SDGs for the developed world (along with the related challenges in energy and climate change).

In this new report the three research partners have created a methodology to analyse the implications of the indivisibility of the SDGs and how countries can ensure that the packages of policy measures they develop are well shaped to implement the SDGs in an integrated way.

This first application of the new methodology has been applied to exploring the linkages SCP targets in and the targets of other goals. SCP was identified by the previous study as the single biggest transformational challenge for developed countries and is commonly regarded as an overarching strategic objective with strong links to many other more specific subjects and policies. This research should help to identify where pursuit of other targets can most fruitfully support, reinforce or strengthen SCP targets and vice versa. It will also help identify where there may be some risk of conflict between SCP targets and other targets unless special care is taken to analyse and resolve the potential conflicts so as to create a more integrated approach.

The EU has been used again in this study as the test bed for the approach adopted. Particular attention is given to the EU's recent Circular Economy Package to analyse how far this will take the EU in implementing SDG 12 and liked targets in an integrated way. But we have also drawn much broader conclusions concerning how to identify and categorise interlinkages between SDGs targets, and how one can, in practice, assess the "fit" between SDGs and existing policies.

The totality of current patterns of production and consumption in the world today are clearly unsustainable in several important respects. They produce too much pollution and waste, damaging the environment. They lead to dangerous levels of greenhouse gas emissions. They use scarce or finite resources. They can lead to negative health impact. And they can promote inequalities. But moving to more sustainable patterns is not easy. It will involve much cleaner modes of production and sources of energy. It will involve reduction, reuse or recycling of waste. It will mean significant changes in behaviour and lifestyles. It will require modifications to the prevailing economic paradigm based on continuous economic growth and consumption of resources as the dominant societal objective. The analysis of linkages will clearly reveal tensions and potential conflict between some of the SDG targets as well as complementarities in other cases. The analysis should help to identify some of the critical tensions that will need further examination as well as potential synergies.

The SCP goal was widely identified in the SDG negotiations as an area where developed countries should take the lead – as indeed is expressed in the text of the goal itself. Developed countries addressing unsustainable consumption and production to a greater degree than developing countries is precisely what universality and the integrated 2030 Agenda requires. As the European Commission notes "unsustainable patterns of current economic development are still largely determined by developed countries… while poorer countries are disproportionately impacted".[1] They need to demonstrate the possibility of achieving more sustainable patterns of consumption and production both so as to reduce the impact of their own economies on the world's natural systems and cycles, and to help the developing countries of the world find development pathways for themselves that avoid the errors of unsustainability that many developed countries have experienced up to now.

1.1. CONTEXT

At the UN Summit meeting in September 2015, which adopted the SDGs, world leaders acknowledged that the world is facing many grave problems and that the transformation to a more sustainable world is a crucial and fundamental task for the decades ahead. In order to have any chance of bringing about this fundamental change the whole of the SDG package needs to be implemented in a vigorous, committed and systematic way by all the countries of the world. They affirmed that the SDGs are *universally applicable*, and that they are *integrated and indivisible*.

Universality indicates that the SDGs apply to both developing and developed countries and need to be implemented by all.[2] Although the nature and balance of the challenges the SDGs embody differs as between countries and groups of countries, every country will find that they represent major and transformative challenges. Business as usual is not an option[3].

1 European Commission A Decent Life for All: Ending poverty and giving the world a sustainable future COM/2013/92 (2013)

2 For a discussion the complexities of universality, see G. Long "The Idea of Universality in the Sustainable Development Goals" Ethics and International Affairs (2015 29:2)

3 Council of the European Union Council conclusions on a transformative post-2015 agenda (Dec 2014) para 14; CONCORD - Beyond2015 ETF Putting People and Planet First: Business as Usual is not an Option (2013)

As debate and action now moves on towards implementation of the SDGs around the world, much of the discussion will rightly focus on the needs of the developing countries and how the SDGs can help them to chart their forward development path. At the same time, the SDGs represent a major challenge for the societies of the developed world to transform their economies and ways of life into a more sustainable pattern for the future. The realisation of **all** the goals and targets **everywhere** is the ultimate objective. Comprehensive implementation is needed in both the developing and the developed world.

Furthermore, the intent of the SDGs is to develop a more integrated agenda; one that successfully combines three dimensions (economic, social and environmental) of sustainable development, and one in which goal areas are enmeshed and interrelated. The very wide scope of the total package of SDGs itself displays the intention of the nations of the world to integrate all their long-term aims in a single integrated agenda. The challenge now is to find ways of carrying that integrated approach through to the implementation stage at all levels.

Many countries will no doubt be creating or revising national sustainable development strategies (NSDSs) to draw together all the actions needed and to establish priorities. But the creation of a single strategy does not guarantee an integrated approach. In the past some strategies have not amounted to much more than listing a wide range of disparate activities loosely related to sustainable development without a proper examination of their interactions and the possibility of synergy or of tension and conflict between different targets and actions. There is an obvious danger of losing momentum and coherence if individual targets are pursued separately each by different Government Departments and policy communities in their own familiar silos, thus neglecting important connections between the different goals and targets and the measures adopted to implement them, and losing opportunities for optimizing any opportunities for trade-offs, synergies and win-win solutions.

A way needs to be found of operationalizing more effective integration.

Trying to develop analytical systems to optimise the best integrated approach to 169 separate targets at the same time may be too ambitious, at least in the first instance. What is needed therefore is a method of analysis that can pinpoint the most important linkages between different targets indicating areas where it will be particularly beneficial to promote joint or cooperative action between the actors involved in the linked targets and integrated policy measures that will have an impact on two or more separate targets.

In some cases there may be measures or policies that could help to achieve several different targets that would deliver results more effectively and efficiently than trying to find policies focused solely on an individual target by itself. Co-operation between the different policy communities involved might help to identify a better, more integrated approach.

In other cases the single-minded pursuit of a single target or goal by itself might actually make it harder to achieve other goals or targets due to policy incoherence or unforeseen externalities. In this kind of case there needs to be a thorough examination of the situation to see how the potential conflict or tension between different objectives and policies can be resolved and an integrated approach secured.

SCP is itself a strongly integrating concept. Ever since the first Rio Summit of 1992, SCP has been regarded as an over-arching aim that should be taken into account in many different subject and policy areas. It is not to be expected therefore that its full force can be encompassed within just one of the 17 SDGs. SDG 12 does indeed contain a number of specific elements needed for the achievement of SCP. But it is not a complete description of what SCP involves or requires. In order to extract a fuller description of what is required to achieve SCP from the larger SDG Framework, SDG 12 needs to be coupled with and enriched by many other targets from different SD goals. Just as the SDG package as a whole needs to be pursued in an integrated way in order to deliver sustainability as a whole, so too does sustainable consumption and production. SDG 12 and its targets are therefore a very suitable area for testing this study's approach to identifying links with other targets.

The EU and its Member States have been amongst the most active in debating the various aspects of SCP over the years and have a number of policies, programmes and initiatives in place that should help to make further progress. But when one considers the whole range of SDGs targets identified in this report linked to SDG 12, and the unresolved tensions inherent in the SDG Framework (e.g. the old debate on whether economic growth and sustainable development can ever be compatible), it is clear that there is still much to be done to bring about the necessary transformation in Europe. This is important not only for the EU itself, but for the example it could provide and the assistance it could give to other parts of the world, particularly the developing countries, in finding their own, more sustainable, development pathways.

Mapping the targets of SDG 12 onto the policies and plans of the EU and its Member States is an important starting point for examining how far Europe is shaping up the SCP challenge in the SDGs. But the exercise will subsequently need to be taken further to examine the EU's state of readiness for dealing with all the other targets positively linked to SDG 12 and for resolving their approach to the difficult areas of conflict or tension between different targets. Section 3 of this report examines this challenge for the EU and its member states and uses the methodology of Section 2 to identify some areas that will require further attention if the EU is to develop an approach to SCP that is commensurate with the level of global ambition set out in the SDGs as a whole.

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PROJECT

With support from the Government of Finland, Stakeholder Forum, Bioregional and the University of Newcastle have formed a research team to undertake this study of the implications of SDG implementation in developed countries through an in-depth analysis of the SCP SDG.

This analysis takes on three important tasks:

1. It develops a taxonomy and system of classification for understanding the types and strengths of interlinkages between SDG targets. This is a crucial development if the indivisible and interdependent nature of the 2030 Agenda, and its implications for policy, are to be understood.

2. It applies this methodology/tool to an identification and assessment of the interlinkages between SDG 12 on SCP and other targets within the SDGs. This allow us both to test and reflect on the methodology, but also to position SCP within the SDGs, noting drivers and levers to promote SCP within and through the other SDGs.

3. It identifies EU law and policy relevant to the targets of SDG 12, and offers an assessment of the alignment of such policy with SDG 12, engaging in detail with the wording of the SCP goal and present and future EU policy to assess coverage and ambition.

Tasks one and two are covered in Section 2 of the report and task three in Section 3.

While these two sections are not directly related, together they connect ways in which to understand how to implement the SDGs through integrated policy-making. Section 2 offer a method for developing new policies building on what is already in place to both raise ambition and provide greater policy coherence, while Section 3 explores and discusses the existing EU policies in relation to SCP offering a examination of a specific region's current status on the SCP theme as an example. Understanding both approaches and how they connect will be crucial to successful implementation of the SDGs.

This methodology developed and used in this study is, in principle, applicable to analysing the relationship between any pair of targets throughout the whole SDG set. But in order to test the approach in a more limited context in the first instance it was decided for the purposes of this study to apply it to the particular set of targets that are linked to the goal of sustainable consumption and production (SCP), and to analyse the results and implications in that field in more detail.

Overall, the aim of this report – through its direct recommendations, but also its underpinning methodology and analysis – is to ensure the universality and indivisibility of SDGs is better understood and upheld in the implementation of the 2030 Agenda, and to provide some guidance and approaches for the application of the SDGs in **all** countries, particularly developed countries, and particularly in relation to sustainable consumption and production.

2. INTERLINKAGES

2.1. METHODOLOGY FOR CLASSIFYING INTERLINKAGES

To understand the nature of interlinkages in the SDG agenda a new methodology was designed to identify and analyse various different types of linkage between different targets, focusing particularly on the interlinkages between the targets in SDG 12 (the SCP goal) and targets in all of the other SDGs.

The first task for this methodology was to assess the different ways in which targets can relate to each other, as a tool to understand and explain the idea of interlinkage. Targets can enable, support, repeat or sometimes conflict with one another. Different types of linkage are policy-relevant in different ways.

There is, to our knowledge, no existing typology of interlinkages between goals and targets in print. This report has therefore created a new classification of types of interlinkage between different targets. The object is to deepen understanding of the relationships between different targets so that policy-makers can escape from the silo model of policy-making (one policy programme for each target with little connection between them). One can then optimise the mix of different elements of the policy and action programmes which they adopt in a more integrated way so as to make the best overall progress on different but linked targets at the same time.

For the purposes of this first application of the new methodology we have focused solely on SCP and the linkages between the targets in SDG 12 and targets in other SDGs that are relevant to the pursuit of the over-arching objectives of it. Our classification of these linkages allows for the identification of both the type of linkage that exists between SDG 12 targets and other SCP-related targets, as well as the strength of this connection. This is important as it means our results can indicate to policy-makers which targets have the strongest relationships and therefore act as a guide on how to develop policies and initiatives which have the potential for greatest impact.

This work breaks new ground in the field of SDGs study. However, the classification and methodology it proposes is still evolving and could no doubt be refined in future iterations. In principle, however, we believe that it could be a useful and powerful tool for analysing the relationships between different targets across the whole field of the SDGs and helping policy makers and others to develop integrated policy programmes across a broad front in a systematic way.

Classifying types of relationship between different SDG targets is not a straightforward task due to the diverse nature of the SDGs targets themselves. Some are succinct, expressing a single very specific idea. While others combine a number of different component parts, at times in ways which are unclear. Some specify both objectives and means of reaching those objectives (and in some cases covering multiple issues), whilst others do not clearly identify either component. Targets can be based on a simple, linear indicator of progress, or in other cases may rely on the state of a range of underpinning indicators to reveal progress.

Just as the targets themselves differ in these ways, so too do the linkages between them. In spite of these difficulties, this study found it possible to identify eight key types of interlinkage that exist between SDG 12 targets and other targets relevant to SCP. We achieved this by studying the linkages identified in detail and distilling the type of relationship present in each linkage into a definition. The eight key types identified themselves fit into three categories:

1. **Supporting** – Targets that support one another tend to do so by fulfilling objectives expressed by each target.
2. **Enabling/disenabling** – Targets that enable (or **adversely affect**) one another by having an impact on the achievement on another target.
3. **Relying** – Targets that rely on one another derive from a relationship of logical necessity which exists between the two targets.

The eight types of interlinkages under these three broader categories are defined in Table 1, opposite. Note that in the definitions, targets A and B do not refer specifically to either a SDG 12 or non-goal 12 target as these could be reversed relationships and could be applied to any targets in the SDGs Framework. There is an element of overlap between the three overarching categories. This was felt to be preferable to attempting a categorisation of interlinkages in which each fits into only one. Notably, our approach fulfils three key criteria for such a typology:

1. It *fits the complexity we encountered*, as it allows each interlinkage to be classified by its unique characteristics in any one, or all, of these types of interlinkages.
2. It *allows us flexibility* to deal with targets that specify multiple sets of objectives and processes (of which there are several in the SCP context).
3. It *allows for expression of complex relationships* in more manageable and understandable classifications.

Again, these categorisations are not meant to be mutually exclusive or exhaustive. They are a relatively manageable tool for identifying aspects and characteristics the SCP-specific interlinkages. Further analysis would be needed to see how this methodology might best be applied across the full spectrum of the SDGs.

It is worth noting that at the time of the writing of this report, the UN expert group working on the SDGs indicators have just finalised the 231 indicators underpinning the goals and targets to compete the framework. However, as they are not yet signed-off by the UN Statistical Commission or the UN General Assembly, we did not assess the links between the indicators themselves. But this methodology could, in theory, be adapted to explore the links between these indicators in a further study.

TABLE 1: *Assessment Methodology – Classification of Type and Nature of SDGs Interlinkages*

CATEGORY	CATEGORY DEFINITION	TYPE	TYPE DEFINITION	SCORE
Supporting	Targets that support one another tend to do so by fulfilling objectives expressed by each target.	**Commonly supporting**	Both targets contribute to the same objective	1
		Mutually supporting	Target A's objective is achieved by Target B's means of implementation, and vice versa	2
Enabling	Targets that enable one another satisfy this relationship by having an impact on the achievement of another target.	**Disenabling**	Implementing target B may hinder or reverse the achievement of Target (eg by competing with it for resources, or more fundamentally because the typical means of implementation of the first target actually worsen the underlying problem which the second target is addressing)	0
		Indirect Enabling	Target B's implementation indirectly enables the achievement of Target A	1
		Direct Enabling	Target B's implementation directly enables the achievement of Target A	2
		Direct Enabling in Both Directions	Target B's implementation directly enables the achievement of Target A, and Target A's implementation directly enables Target B's achievement	3
Relying	Targets that rely on one another derive from a relationship of logical necessity which exists between the two targets.	**Partial reliance**	Target B is a subcategory of Target A and adds some detail as to how Target A can be achieved	1
		Full reliance	Target B's implementation is necessary for, but not intrinsic to, Target A's achievement	2

2.2. METHODOLOGY FOR IDENTIFYING AND ASSESSING INTERLINKAGES

These eight types of interlinkage form the basis for the assessment and evaluation of the relevant SCP interlinkages. Each interlinkage, of which 25 were identified (see below for selection process), is assessed against these three categories and classified against the relevant eight types of interlinkage.

The major decisions in the analysis included producing a list of interlinkages, deciding on necessary terms and definitions and assigning the definitions to the interlinkages themselves.

One key problem faced in the course of the research was the ambiguity of the SCP targets' wording. For example, in Target 12.2, Member States are required to *"achieve, by 2030, sustainable management and efficient use of natural resources"*, it was felt that such a target could lead to a variety of interpretations, owing to the lack of specificity of the terms 'sustainable management', 'efficient use', and even 'natural resources'. When confronted with ambiguous wording, this study looked to the emerging SDGs indicators framework to aid in our understanding of the target. Bioregional's assessment of each target was also taken into account, given their expertise in the field. Please look to Annex D to refer to these indicators and Bioregional's clarifications of the targets, whilst reading the assessment below.

Amongst the interlinkages selected for analysis, some caused discussion amongst the team. For example, Targets 7.2 and 7.3 on renewable energy ("achieving more efficient use of natural resources"), as a connection to Target 12.3. Given conflicting opinions on the scope of the definition of natural resources, a degree of interpretation was required to justify the inclusion of these targets and their interlinkages in the study. Natural resources includes all raw materials - and fossil fuels - making it very broad in scope. But should it also be taken to include renewable energy? and how might these different components relate to each other in the analysis? The research team opted to keep the target in and consider renewable energy to be a special type of natural resource so as to widen the discussion, and then consider the implications of involving these targets in the analysis section.

In order to facilitate the selection of which interlinkages present between SCP and non-SCP targets for use in this research, we started with the connections which Bioregional had previously identified in their report *Sustainable Consumption and Production and the Post-2015 Sustainable Development Goals*[4]. In addition to this, the research team analysed the full list of targets to identify any missing interlinkages for inclusion in this analysis. Arguably almost all of the 169 targets have some plausible link to SCP, reflecting its core role in the transition to sustainable development. The analysis identified a subset of targets that

4 F. Seath, N. Schoon Sustainable Consumption and Production and the Post-2015 Sustainable Development Goals (Bioregional, 2014) *http://www.bioregional.com/wp-content/uploads/2014/12/SCP-Nov-2014.pdf*

have a clear and direct link to sustainable consumption or sustainable production and use of natural assets or resources. It is important to note that this process of identification differs from, and goes beyond, the methodology used in UN DESA's recent paper on interlinkages.[5] The UN DESA study links SCP *targets to other goal areas* by identifying those explicitly referred to in the wording. Here we undertake the more complex work of linking *targets to targets*, aiming to identify a wider range of relationships that might be obscured, rather than revealed, by the wording of the goals.

It was decided to focus on target-to-target interlinkages, as opposed to target-to-goal interlinkages, primarily to for the sake of simplicity and user-friendliness, and to avoid creating a methodology which identified quite obvious relationships between individual targets and overarching goals which may detract from the more complex and interesting findings.

In principle, one might envisage analysing all possible linkages between each and every one of the 169 targets in the SDGs. Unfortunately, such an approach was deemed out of scope for this study due to resources and time. Instead this study has endeavoured to create a fairly simple method of first order analysis that can pinpoint and characterise the most important linkages between different targets. The objective is to identify pairs of target areas where it is likely to be particularly beneficial to promote integrated measures and joint or cooperative action between the actors involved.

The research team also considered the interlinkages between individual SCP targets applying the same methodology. The judgement was that the extensive – and thoroughly expected – nature of the intra-SCP interlinkages did not add distinctive value to the analysis at this stage. Therefore, SCP-SCP interlinkages were not included in the analysis. However, these interlinkages should be given consideration by policy-makers. Further detail on this point is given in Section 2.3 below, and we identify a list of SCP-SCP interlinkages in Annex B as a supplement.

Once both the list of interlinkages and the assessment methodology were agreed, four analysts evaluated the linkages separately. Where all four assessors agreed in their classification their agreed evaluation was adopted. Where only three out of four analysts agreed on classification, the final evaluation was taken from the three which concurred. Where only two analysts identified a common evaluation, the moderator referred to each analyst's reasoning to finalise the definition and ensure consistent responses. In the last situation, further discussions between the assessors resulted in commonly agreed classifications.

As well as classification, a numerical value was given to each interlinkage and a total score derived. This is possible since the sub-categories of each of the three relationships represent an aspect of the strength of the connection. **Disenabling** is the only type with a strength of 0 as it could be a negative interlinkage resulting in a detrimental impact, depending on how it is interpreted and implemented.

Commonly supporting, indirect enabling, and **partial reliance** all receive 1 point, as these are notable, but not especially close relationships. **Mutually supporting, direct enabling** and **full reliance** were awarded 2 points to signify the closer connection that linkages between targets of this nature possess. Importantly, these may hold more significance for those tasked with implementing such targets. **Direct enabling in both directions** carries 3 points, signifying how inextricably linked targets are in this case, and the potential powerful implications for policy-makers. These values are summarised in Table 1 above. Targets are assigned one mark per category of interlinkage, and the final score has been aggregated.

This exercise of assigning a rating to each dimension, and aggregating them, yields a score we have termed *strength*. We offer this here as an "at a glance" assessment of the overall density of the interlinkages across all of these categories. Nevertheless, such an exercise has limitations – in many ways, the detail of these interlinkages is central to their usefulness for policymakers. An analysis of different types of interlinkage does not easily lend itself to a total: we are not claiming, for example, that a score of 6 indicates three times as much interlinkage as a score of 2. This rough measure of strength should be placed in the context of both our accounts of the different categories and our analysis that follows. A relatively weak interlinkage on our aggregate measure – scoring 2, say, - could actually reflect a very specific *enabling* precondition for another target, but no other kinds of link. In many cases, though, we expect interlinkages of different types to be coexistent and mutually reinforcing – for example, a very strong link might well be *enabling* in a way that is tantamount to complete *reliance*; a target that tackles a necessary component of a larger target in depth, offering specific means to achieve this aspect, might well *support* that target in part through *enabling* its achievement.

Such a scoring of strength of interlinkages is also useful as a back-up check on or verification of the validity of the interlinkages chosen for analysis. If a low or zero score is derived, one must question whether the interlinkage identified truly exists.

2.3. RESULTS

The final agreed evaluation of interlinkages (classification and final scoring) is presented in Annex A below (due to the size of the table).

Table 2, opposite, summarises the aggregate scores of the interlinkages, and shows the distribution across the scores.

Table 3, opposite, shows the frequency of the type of interlinkage within the analysis. This indicates the prevalence and commonality of each classification from the analysis of the interlinkage identified for this study.

5 D. Le Blanc. Integration at last? DESA Working Paper 141 (2015), p2 *http://www.un.org/esa/desa/papers/2015/wp141_2015.pdf*

TABLE 2: *Aggregate Scores and Strength of Interlinkages*

SCORING	FREQUENCY	STRENGTH
7	0	High
6	4	High
5	6	Medium
4	9	Medium
3	3	Medium
2	3	Low
1	0	Low
0	0	Low

TABLE 3: *Frequency of Type of Interlinkage*

SCP TARGET	NON-SCP TARGET	SUPPORTING		ENABLING				RELYING	
		Commonly supportive (1)	Mutually supporting (2)	Disabling (0)	Indirectly enabling (1)	Directly enabling (2)	Mutually enabling (3)	Partial Reliance (1)	Full reliance (2)
Frequency		17	2	1	4	13	9	19	5

2.4. ANALYSIS

The analysis of the interlinkages evaluations presented several interesting findings:

1. **Relationships - Commonly reoccurring 'relationships' between interlinkages are important to understand. Knowingly employing these relationships can result in more sophisticated policy design and amplified impacts on the ground.**

   - In reviewing Table 2, the first point of analysis is the overlap and relationship between certain interlinkages. For example, **partial reliance** and **commonly supporting** frequently occur together. This is unsurprising considering that if one target is a sub-category of another larger target – and possibly adds detail as to how the larger target is to be achieved (**partial reliance**) – then the two targets will contribute to the same larger objective (**commonly supporting**). This is not always the case, however, as sometimes the non-SCP target may put emphasis on a slightly different objective, but still add further detail as to how a subset of the SCP target can be achieved, by coincidence of the fact that the two objectives involve the same means of implementation. See Targets 12.5 and 6.3 as an example.

   - Another commonly occurring pair of interlinkages is **partial reliance** and **direct enabling**. This is also logical given that the implementation of a target focusing on a sub-category of the SCP target would inevitably help to achieve the SCP target by the fact that it is an intrinsic component of it. For example, Target 14.2 (sustainably managing and protecting marine and coastal ecosystems) will directly facilitate the achievement of Target 12.2 (sustainable management of the wider category of natural resources). In the results of the evaluations, **partial reliance** never occurs without some form of enabling factor, be it indirect, direct, or direct in both directions.

   - **Mutually supporting** arises together with **direct enabling** too. Again, this is not surprising, given the overlap in their definitions: if the means of one target are the objective of the other, then this target will inevitably enable the other's achievement.

2. **Higher investment, Greater Return - Higher investment (time, resources and leadership) in developing the stronger, more advanced interlinkages (which are more challenging, based on their complexity) into policies and related initiatives is likely to result in greater gains through greater policy coherence and the realisation of co-benefits.**

   - The highly occurring interlinkage, **commonly supporting** (17 occurrences), demonstrates integration within the SDGs Framework (and specifically between SCP and other SDGs) in that many targets share objectives with other targets. It is, of course, important for successful implementation of the SDGs that targets share similar objectives, in order for the relevant end points to be reached. This also reflects the integrated nature of sustainable development and supports a view that this has been, at least partially, achieved in the SDGs.

   - Another particularly recurrent interlinkage is **partial reliance** (19 occurrences), which shows that many targets interact with SCP by adding further detail as

to how SCP can be achieved. This interlinkage is helpful for policy-makers looking for policies to achieve SCP: just use a partially relying target as a policy to achieve the interlinking SCP target.

- However, these more frequently occurring interlinkages are actually less significant in terms of added value. While it is expected that interlinked targets would support the same objective (**commonly supporting**) and add further content to other targets (**partial reliance**), at times these overlaps can result in duplicated text, means and outcomes indicating a level of wasteful repetition within the SDGs Framework.

- The more important interlinkages to explore are the higher value, but more infrequent ones. Connections such as **mutually supporting** (2 occurrences), **mutually enabling** (3 occurrences), and **full reliance** (5 occurrences) – i.e. those with the highest scores in this methodology – carry closer and more intimate relationships. Where one target's success depends on another target (full reliance), or where the means and ends of the targets are interlinked (mutually supporting), policy-makers will have greater impact if they implement both at the same time. This provides a (further) rationale for more joined-up policy-making.

- This approach will be harder than implementing lower value relationships, like **partial reliance** and **commonly supporting**, because often the targets are thematically separate, such as Targets 12.4 and 3.9 and 6.3, which are **mutually supporting**, even though their connection is a close one. The policy-maker will have to combine policies on pollution and health with SCP to achieve the outcomes stated in these targets. However, as a result, the policy-maker will be more highly rewarded, as both targets in separate spheres (improving health and reducing environmental impact) will be satisfied.

- This is also true for Targets 12.2 (efficient use of natural resources) and 14.6 (fisheries subsidies), which we have identified as **fully reliant**. 14.6 uses economic measures, whilst 12.2 broadly refers to improving environmental management. This means that economic and environmental departments need to collaborate to achieve the most effective results.

- Equally Targets 12.2 (efficient use of natural resources) and 14.4 (effectively regulate harvesting and end overfishing) necessitates the collaboration between scientific, legal and regulatory and industrial spheres to achieve the best outcome. We have labelled this interlinkage **direct enabling in both directions**. In this way, new partnerships and investment in both science and engagement will reap the highest rewards for those seeking to implement the SDGs and SCP in the most successful manner.

- This is not to say that all positive outcomes must arise from cross-sectoral collaboration. Targets 12.8 and 4.7 **enable** each other **directly in both directions**, and both policies lie with the responsibility of educational bodies. However inter-sectoral approaches are required, as one target refers to "learners" whilst the other applies to "people everywhere". The targets are linked and will help each other only if there is collaboration between the multiple parts of the wider educational policy framework.

- Policy-makers will only implement SDGs successfully, therefore, if they are willing to provide ambitious policies which draw upon the skills and powers of other sectors or departments in their national or regional contexts. Such a transdisciplinary approach will require time, capacity building and investment. But the return on such investments can be large and profound.

3. **Conflicting targets – Some interlinkages must be highlighted to show that the achievement of certain targets may prejudice or even undermine achievement the achievement of other targets if not implemented appropriately.**

   - The analysis shows at least one linkage where one target demonstrates the potential for 'disenabling' another. Whilst is it important for targets to facilitate and complement one another, it is of greater importance for targets not to sabotage another's achievement. SCP requires the integration of environmental, social and economic policies, however there is high potential for the SDGs' economic policies to prejudice the achievement of SCP if executed inappropriately.

   - For example we have identified that 2.4 on implementing food production systems and agricultural practices that increase productivity and production, could negatively impact the achievement of 12.2. This means that policymakers must interpret 2.4 in line with 12.2 in order to not prejudice its achievement; increasing productivity and production must be realised in a sustainable manner, in order to fulfil 12.2's aim to achieve sustainable management of natural resources.

   - This interlinkage is not the only one in the SDGs which may have a conflicting rather than complementing relationship. The interlinkages identified between 12.2 and 7.2 could be both indirectly enabling and disenabling depending on subject of the implementation approach. For example an increase in the use of renewable energy sourced from biomass or water may be achieved using unsustainable methods should good environmental management be overlooked in a bid to achieve the target. At the same time, by increasing the share of energy from renewable sources the use of fossil fuels should decrease, indirectly supporting the achievement of target 12.2. These two targets illustrate the complexity of understanding the interlinkages and informing policy making when the targets encompass broad subject matter and are dependent on interpretation.

   - As our selection of linkages focussed on positive relationships rather than negative ones, we identified fewer conflicting linkages in our study. In a more expansive study, more negative relationships could be identified amongst the SDGs. For now, policy-makers should be aware of potential conflicts, particularly

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between economic and environmental targets. Effective policies should advance all aspects of sustainable development without compromising one another. Investing in research and development to find green technologies that increase productivity sustainably, for example, is one way both environmental and economic targets can be met.

4. **Missing Links – Despite a large number and variety of good interlinkages between the SDGs on sustainable consumption and production (SCP) and other aspects of the SDGs framework, there are some profound and important missing links which must be addressed in the implementation of the SDGs.**

   - The analysis shows that, in accordance with the aim to integrate SCP across the sustainable development agenda, the variety of interlinking targets with SCP targets is indeed large. In the analysis, the aggregated scoring has been used to explore where key groupings exist amongst the interlinkages:

     - **Scores of 6** – Amongst top-scoring interlinkages with an aggregate score of 6, each linking target comes from a different non-SCP Goal. Therefore, no trend was noted.

     - **Scores of 5+** – Within interlinkages scoring 5 or 6, there are more connections between Goal 14 (conserve and sustainably use the oceans, seas and marine resources) and SDG 12 than other SDGs

     - **Scores of 4+** – Including scores of 4, SDG 6 (ensure access to water and sanitation for all), and SDG 15 (sustainably manage forests, combat desertification, halt and reverse land degradation, halt biodiversity loss) are also frequent connections to SDG 12.

   - This analysis demonstrates the ubiquity of environmental interlinkages with SCP; a good thing. However, despite the fact that SCP by definition should be closely linked with industry and production, the SDG 12 deals with the impact of consumption and production on the environment better than it deals with the causes of such unsustainable behaviour. For example, there are few interlinkages with economic targets in the analysis, even though our analysis shows that such interlinking targets may have the greatest impact for achieving SCP, as per Target 12.2 (natural resource management) and Target 14.6 (fisheries subsidies) as highlighted above.

   - This point is made clearly for Targets 12.6 (business sustainability reports) and 12.7 (procurement practices), where no interlinkages were identified at all elsewhere in the SDGs Framework. Working in isolation to achieving such cross-cutting targets will be challenging, but particularly if these targets are not more strongly linked to economic drivers and rewards.

   - Another example is Target 8.4, which mentions decoupling. However this would only be possible where Targets 8.1-8.3 on economic growth and productivity work in tandem with Target 8.4.

Therefore, there are missing links here; **partial reliance** would be helpful to understand how to achieve decoupling, and **direct enabling** would help in defining how to achieve sustainable growth. This raises again a perennial debate in sustainable development on whether this aim is in fact possible. Sustainable development will not be achievable without the support of economics and industry.

- Lastly, we have identified no interlinkages in our analysis between SCP and Inequalities (SDG 10). True sustainable consumption and production will aid in the reduction of inequalities between, and within, countries and in combatting chronic over- and under-consumption. While, SDG 12 does mention differentiated responsibilities in Targets 12.1 (10 Year Framework of Programmes) and 12.a (strengthening the capacities of developing countries through scientific and technological support), there is room to expand these concepts and interactions further. As a key aim of this report is to promote the principles of universality and indivisibility/integration of the SDGs, developing a greater understanding about the interaction between SDG 10 and 12 in implementation in policies could provide **mutually supporting** interlinkages. For example, through determining a fairer allocation of resources amongst and within countries. Currently, interlinkages connecting SCP with Inequalities are missing from the SDG Framework. This should be address in the formation of relevant policies.

5. **SCP-SCP links – Given its cross-cutting nature, the 10 Year Framework of Programmes (10YFP) should be given special attention to ensure SCP to SCP interlinkages are identified, developed and enhanced, including to draw out policies involving economic and equality measures.**

    - While we did not include SCP-SCP interlinkages in the analysis, there is some merit in considering these connections more generally. The economy-focused Targets 12.6, 12.7 and 12.c have one or no other links to other SDGs targets (as reported under *Missing Links* above), whilst other environmental and waste targets have 3-5 on average (see Annex B). The best-connected target is Target 12.1 (10YFP), thanks to the breadth of this programme, and Target 12.2 on sustainable management of natural resources, owing to the ambiguity of the wording. Therefore Target 12.1 and the 10YFP should be used as a means to address and provide interlinkages to aid in the achievement of Targets 12.6, 12.7 and 12.c.

6. **Scores and Strength – This study indicates that the strength of the interlinkages between the SCP SDG and the other SDGs is high overall, and that these interlinkages are relatively well integrated.**

    - Overall, the majority of interlinkages are found to be 'high' or 'medium' in strength (22 of 25 or 88%). This is unsurprising given the crosscutting nature of the SCP SDG across the SDGs framework; furthermore, it is precisely what our method would lead us to expect. But the relative absence of weak interlinkages might be significant.

    - However, no interlinkage received the highest possible score (7), indicating that even within these interlinkages more could be done to improve the integration of the observed interlinkages.

    - Equally, none of the observed interlinkages scored at the bottom of the range (1 or 0), indicating that the interlinkages observed are of a relatively high strength as judged by this methodology.

Other key findings have been raised from the analysis which may help to ensure enhanced integration of all components of the SDGs and increased effectiveness of policies. Please see the **Section 4 - Recommendations** for these proposals.

KEY FINDINGS AND RECOMMENDATIONS - INTERLINKAGES

- Focus on interlinked targets to amplify output on SCP and across the SDGs
    - Refer to partially relying targets to discover means of implementing the linking target.
    - Look to commonly supporting targets to find out how to contribute to the same goal with separate targets.
    - Consider enabling targets to make achieving another target easier.
- Higher value interlinking targets are more challenging to address but provide greater reward to policy-makers.
- There is a need to address missing links, specifically more financial/economic SCP policies and those which work towards reducing inequalities.
- Where there is potential for conflict, interpret targets and create policies such that they contribute to the same objective and do not sabotage another's achievement.
- Use the 10YFP as a platform to achieve other SCP and non-SCP targets.

3. SUSTAINABLE CONSUMPTION AND PRODUCTION IN THE EU

Implementing the SDGs in the EU presents particular problems because of the division of roles, competences and powers between the EU institutions and the Member States. Vigorous action will clearly be needed at both levels but it will be a complex task to sort out what should be done at which level and how to secure optimal collaboration between the levels so as to secure the most coherent and integrated implementation. The EU has already set out what this action should look like, stating "the post-2015 agenda should be reflected in the internal and external policies of the Member States and of the EU, including the renewed EU Sustainable Development Strategy, and the Europe 2020 strategy and related policies".[6]

One approach might be to start from the UN's own affirmation that the primary responsibility for delivering the SDGs should be regarded as lying at national level. Every country in the EU will accordingly need to formulate its own implementation strategy and regularly report progress against the totality of the SDGs. When these national strategies and plans are available it will be easier to see more clearly where they may need reinforcement or co-ordination at EU level.

Past experience shows however that the EU already has a wide range of crucial responsibilities in relation to sustainable development generally and will therefore clearly have an important role to play in SDGs implementation either through the exercise of powers within EU competence or through promoting and encouraging co-operative action amongst Member States on issues that will benefit from a common approach. Therefore it seems appropriate for the EU not simply to wait for national implementation strategies to emerge but to undertake its own proactive review of the SDG implementation task in Europe and the role of EU action on this. SCP in particular is one main SDGs theme that will need to be vigorously pursued at European level because of the many topics within this theme for which there is already EU competence, and a body of legislation and other action to build on.

In a separate study[7] for the European Economic and Social Committee in 2015, Stakeholder Forum accordingly made a number of general recommendations about how SDG implementation might be addressed in the EU and how stakeholders of all kinds might be involved in the process. At the time of writing this report the European Commission has not yet come forward with a comprehensive approach to SDG implementation in Europe. It does, however, have a number of actions and initiatives in hand that will clearly be relevant, and in the recent Circular Economy package it has made new proposals that relate strongly to the implementation of SDG 12 and related targets.

In the absence of a comprehensive overview of SDG implementation from the European Commission (EC) the present study has confined itself to reviewing in more depth how the EU is currently approaching the task of promoting SCP in the EU. In the light of the analysis in the previous sections, the study identifies areas where additional action at EU level may be needed to secure an adequate European response to the external challenge which the SDGs represent in relation to SCP.

Section 2 of this study developed a methodology for categorising and assessing interlinkages, and applied that to interlinkages in the SCP context. This Section turns from understanding the nature of 2030 Agenda and the targets and links that compose it, with a focus on SCP, to understanding the current state of EU action in respect of SCP.

This exercise should be taken as a contribution to an ongoing, collective exercise in analysing the alignment of EU policy with the SDGs. However, it is hoped that the approach used here could also inform similar exercises at the national level and in other regions.

In order to ascertain how far the EU is implementing SCP, research was undertaken to collate what current EU legislation/policy exists, identify any areas it could improve upon and highlight any gaps.

The EU policy instruments considered include regulations, directives, decisions, recommendations and opinions. Regulations are binding in their entirety and directly applicable in all Member States. Decisions are binding in their entirety with regard to the specific parties to whom they are addressed. Directives are binding, as to the result to be achieved, but not the methods states employ for achieving the result. States possess autonomy as to how to apply and realise the objectives of directives in their own context. EU recommendations, opinions, and communications have no binding force or mandatory authority.

Policy as well as legislation was therefore included to ensure the full spectrum of EU activity was considered where it does not have the legislative competence to direct Member States' affairs, or where it is has not chosen to enact laws. Proposed and future policy or legislation has also been included where relevant, in order to take future EU visions into account. Policy and legislation generally refers to Member States only, or even EU policy referring to itself (for example procurement practices of EU institutions) and not the EU's relationship with non-Member States (for example sustainable tourism in 12.b principally refers to tourism within the EU only). Our analysis is focused on EU internal policies on SCP: we cannot address the wider commitment of the EU and its Member States to play "their full part in all aspects of the agenda including means of implementation"[8] here.

Annex C lays out the SCP targets against existing or proposed EU legislation or policy. It then assesses the fit of EU policy instruments in terms of whether it addresses or covers all

6 EU Council conclusions on a transformative post-2015 agenda December 2014, para 28

7 EESC - Building the Europe We Want. (EESC, June 2015) - *http://www.eesc.europa.eu/resources/docs/qe-04-15-507-en-n.pdf*

8 EU, A Transformative Post-2015 Agenda, para 28

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https://flic.kr/p/7GTn3M

aspects of a particular target, and whether the level of ambition in EU policy matches, falls short of, or exceeds, the ambition present in the relevant SDG target. The analysis identifies jurisdictional responsibility for implementation and the particular body responsible, and then offers a brief commentary on problems observed, and any recommendations to ensure that the target would be adequately met.

The ambiguity inherent in the wording of both SDG targets and EU policy presented a problem for this analysis. For example, it is not clear what would count as adequately "promoting" certain aspects of the agenda or how the success of this would be measured. However, no instances were observed where EU and SDG wording was truly incommensurable – that is, could not be set against each other and compared. In light of these ambiguities, the analysis invoked the SDG indicators under development (at the time of the writing of this report) to give guidance on the meaning of targets (see Annex D). Where the indicator presents a more specific, even numerical value to be fulfilled in order to reach the target, the specified aim in the indicator was included as well as other EU policies or legislation which would lead to achieving the target in its general sense.

3.1. RESULTS

The results of our research can be found in Annex C below.

3.2. ANALYSIS

The detail identified in the analysis in Annex C below is worth considering, since the specificities of each area are precisely what states and inter-state institutions must grapple with in the implementation process. Simultaneously, though, a number of key themes and issues emerge from the analysis. Five key findings are presented below:

1. **The presence of clear strengths in EU environmental legislation** – In this section, it was discovered that EU legislation's strength and weakness tends to reflect those identified in the interlinkages evaluation. As with interlinkages for the SDG 12, EU legislation concerned with SCP is particularly strong on environmental matters, including waste legislation. The proposed adaptations to the Waste Framework Directive are ambitious, e.g. maximum of 10% waste to go to landfill, albeit not as much so as the previously proposed framework, which put this figure at 0%. This is one of the clearest examples of EU legislation aligning with SCP targets. It is worth noting that international agreements such as the Basel and Rotterdam Conventions provide parameters within which the EU and Member States should operate in relation to specific SCP targets (assuming they are signatories) and offer an opportunity to better integrate social dimensions of SCP by addressing the human consequences of environmental unsustainability.

2. **The need to reach an agreed understanding on the substance of some SDG targets** – In some cases, the ease with which SCP targets could be met reflects not the strength of EU policy, let alone the universal implementation of that policy across Europe, but rather the ambiguity of the wording of the SCP targets and their indicators. For example, Target 12.2 (sustainable management and efficient use of resources) to be monitored by its indicator 'material footprint', will be met without particular efforts for improvements by the EU due to the lack of specific numerical targets to give content to the idea of "sustainability" or "efficiency". The EU and Members States should look beyond the targets and indicators here in order to set appropriate standards for themselves, particularly where none exist. While the SDGs are an important common standard, they do not fully define the content of universality here – that is, the SDGs should be seen as the floor not the ceiling in regards to both opportunities and the EU's responsibilities of achieving sustainable development.

3. **The need for legislation to be aligned to the SDGs** – In some places, legislation does not quite reflect the ambition of the SCP targets in the SDGs, including the requirement to 'reduce' food waste rather than 'halve' it, (as called for by Target 12.3). Without this alignment in stated ambition, there is no guarantee that the SDGs target will be met. Here, and elsewhere (e.g. business reporting which allows for broad flexibility and several exemptions within the requirement for sustainability reporting – Target 12.6) EU legislation could be revisited to ensure alignment with the SDGs.

4. **The importance of EU competence and political will as limits to action** – Stronger EU action in the form of legislation cannot be expected in areas where EU competence is limited. For example, it will only ever be able to *recommend, coordinate and support* state action

on sustainable development education (Target 4.7), as it does not have the authority to alter educational curricula in Member States. This is the same with ending fossil fuel subsidies (Target 12.c), which is only *proposed* as a policy by the EU in Europe2020. Given a current climate of concern over EU "competence creep", an agenda of "better regulation" and relatively low public confidence in EU institutions, the question of how EU competences should be used to their full extent, let alone extended, is one to be approached with caution. In this climate, it is clear that it is the role of the Member States to push the EU agenda on SCP, since the EU's ambition will rarely outreach that of the Member States. By advertising their own strengths and achievements, states can encourage the EU to raise the bar to the standard reached by the highest achieving Member State. The EU could, of course, coordinate and support such an exercise, and act as a forum where ambition would be raised. This suggests a role for the EU not necessarily as a driver of legislative action, but rather of peer review and learning. It could coordinate full completion of National Action Plans on Education of Sustainable Developmetn (ESD) or the involvement of Member States in the 10YFP, for example, to encourage change in these areas. At the same time, in areas where "only joint action at European level can deliver the desired results"[9], concerted effort by states to working together and utilise EU competencies and institutions is required.

5. **The importance of the EU Circular Economy Package** – It should be noted that the recent Circular Economy Package serves to integrate consumption and production processes more closely with their environmental impacts. Proposals such as developing quality standards for secondary raw materials to increase market confidence, adopting a waste-to-energy initiative for waste that cannot be used otherwise under the waste hierarchy, promoting economic instruments to discourage landfilling, or providing economic incentives for producers to put greener products on the market and support recovery and recycling schemes, would narrow the current gaps between industrial processes and environmental protection, if implemented.

   Therefore it is recommended that the Circular Economy Package be harnessed and used for policy ideas in the achievement of the SDGs where such opportunities are currently missing, as highlighted in this and the previous section. Additionally, the former Waste Framework Directive proposals (which were scrapped in 2014) should be re-examined, for example, the targets on achieving 30% resource efficiency by 2030. States should consider these sets of recommendations for more ambitious and integrated policy guidance.

6. **The unresolved tension between economic growth and environmental sustainability** – As with the interlinkages section, attention is most lacking in an area that is most vital to SCP: sustainability within business and industry. EU legislation surpasses the UN requirement by enacting such reporting as law, however this in itself will not accelerate the journey towards truly sustainable consumption and production.

   Target 12.6 on corporate sustainability reporting in the SDGs is a minor step where much stronger governmental action is needed to spur change in this area.

   A larger tension between environmental sustainability and development-as-growth is not just evident in EU policy, but the SDGs themselves. Whilst the SDGs claim to be thoroughly integrated and interdependent, they have not wholly reconciled the ambitions of "sustained economic growth" –including over 7% growth in GDP in developing countries (target 8.1) – and the vision of "a world in which consumption and production patterns and use of all natural resources are sustainable" (preamble). The SDGs themselves address this squarely only once, and with starkly limited ambition – pledging to "endeavour to decouple economic growth from environmental degradation" (target 8.4). The SDGs, perhaps, could not be expected to resolve this issue, which goes to the heart of how sustainable development should be understood.

   In the EU context, an arguably dormant EU Sustainable Development Strategy coupled the narrow understanding of sustainability in the EU2020 strategy as a matter of climate change, efficiency and energy, might suggest that the tension between growth and sustainability has not been resolved through *reconciliation, but rather prioritisation*, especially through a narrative of growth in a time of economic crisis.

KEY FINDINGS AND RECOMMENDATIONS – SCP IN THE EU

- The EU is doing well on management and reduction of waste, but this is not the only element of SCP.
- Clarify ambiguous targets where the wording and the indicators are still unclear.
- Raise EU ambition where it is wanting or lacking (e.g. food waste, business reporting).
- Member States should set the standards where the EU cannot (e.g. education, taxation).
- The EU can encourage and support national responses (e.g. National Action Plans) where its competence is otherwise limited.
- Harness the Circular Economy proposals to implement the most integrated policies.
- Call for more ambitious green economy schemes in the EU which alter current patterns of consumption and production, or push the agenda in the EU by implementing these in domestic policy.

9 Juncker, letter to 1st VP Timmermans, November 2014: *https://ec.europa.eu/commission/sites/cwt/files/commissioner_mission_letters/timmermans_en.pdf*

4. CONCLUSION

This two-part project set out to advance understanding of how the interlinked, universal SDG agenda might be implemented, focusing on SCP as found in goal 12: it addressed both key interlinkages with SCP targets, and how far current EU policy can be mapped against SCP targets. In the first part, we developed a methodology and deployed it to analyse target-to-target interlinkages surrounding goal 12. In the second, we identified a range of EU policy implements related to goal 12. Here, we summarise our findings and identify limitations of this pilot that constitute areas for further research. Lastly, we highlight key recommendations for policymakers.

The methodology we developed identified markedly different *types* of linkage between targets, some of which are more significant than others. In some cases a target under one SDG virtually repeats one under another goal, or else provides a little more detail about the content of an objective. In other cases, however, the interlinkage is more significant - where for example one target is a driver or enabler for another one, or else a precondition for its achievement. In such cases it will be important that those planning implementation consider how to employ these significant linkages, optimising the mix of policies and plans so as to move forward in a well-integrated way. In other cases, there may actually be tension or conflict between targets.

Our analysis of goal 12 shows a considerable number of positive linkages between single targets under SDG 12 (the "headline" goal for sustainable consumption and production) and targets under other goals which ought to be taken forward in a well-integrated approach to implementing SCP. But it also highlights the potential for tension between SDG 12 targets and those elsewhere in the framework. This kind of tension is perhaps particularly likely to occur between growth-oriented economic objectives, and environmental or social objectives which may seem to imply restraints on growth. Policy-makers might try to resolve this kind of tension by seeking green growth and decoupling economic growth and job creation from growth in material consumption of natural resources and pollution. But this desirable synthesis is by no means complete in practice, and the kind of analysis proposed in this report may help to identify a number of the key areas where such policy integration still needs to be developed further if all the SDGs are to be implemented in a successful and coherent way.

The analysis identifies some missing interlinkages in the SDGs and targets – where we would expect to find a link, but the link is not present. Thus, although the 17 goals and 169 targets are a wide-ranging list, they are not a fully comprehensive and holistic framework. We found, furthermore, that in the SCP context some of the targets were expressed vaguely or weakly. Individually and jointly, then, it is important to recognise that the SDGs are insufficient as a roadmap for, or test of, full global sustainability.

This is not to say that Implementation of SDG 12 and its interlinked targets is not worth doing. On the contrary full implementation of all these linked targets in a well-integrated way would be a major step forward for any developed country or group of countries such as the EU. This reflection illuminates the analysis we undertook on policy action at EU level on the SCP areas identified in the SDG 12 targets.

In principle the range of EU policies in place or under development in recent new initiatives such as the Circular Economy package appear well judged to deliver most of the targets in SDG 12, and could be regarded as representing a good framework for the EU to address this - limited - characterisation of the SCP challenge. Our analysis suggests that there will be further work needed to firm up the level of ambition in relation to some of the SCP policy elements (partly through the selection of appropriately stretching indicators of progress and timetables for change).

However, the single most important limitation of our analysis is that the limited scope of our pilot means that we could not address the adequacy of EU policy in respect of a wider and more transformative SCP agenda encompassing all the interlinked target areas we identified beyond the SCP goal. The outcome of such an analysis, we hypothesise, would lead to a less favourable assessment of the EU policy environment. Certainly, adequacy in respect of goal 12 should not be regarded as the end of the SCP journey, as far as EU policy is concerned.

Four additional limitations of this pilot project should be highlighted. Together, these point to a larger context of SDG implementation and serve to identify areas for urgent future research. *First*, in identifying relevant EU policies, we did not assess how effectively they had been implemented and enforced at EU and member state level. Effective national implementation of SCP policies is crucial, and there is much to be done to encourage EU member states to adopt a comprehensive and ambitious approach to SCP, particularly those that have given it less attention hitherto.

Second, our focus here was narrowly internal: we did not address how the EU's full share of implementation on SCP should be reflected in its external policies, for example in its contribution to global implementation of SCP, or in its relations with its near-neighbours and trading partners. *Third*, we have not set implementation of SCP in the context of the implementation of a wider SDG agenda. Whilst SCP is clearly a priority area, we make no judgement here on how far beyond this the EU's contribution to achievement of the SDGs must go, either within or beyond the borders of the EU.

Fourth, though we have addressed the universal and interrelated nature of the SDGs, we have not assessed other central elements. One of these is country-level differentiation: reflecting diverse country contexts in Europe might present a challenge for universal

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implementation of SCP in the EU. Another is the imperative at the foundation of the SDG agenda to "leave no one behind". Achieving SCP in a way that is especially concerned with the most marginalised social and economic groups poses an additional transformative challenge requiring, as a minimum, careful policy design, constant data disaggregation, and focus in monitoring and review.

These are all ways in which our work here could usefully be extended. Despite these limitations, though, this pilot offers an important analysis of how, and to what degree, SCP is integrated with other goals, and an independent survey of EU activity in the area of goal

Our key findings for policymakers are summarised in the box below.

KEY RECOMMENDATIONS - CONCLUSION

- Where SDG wording and indicators are unclear, clarify ambiguous targets in domestic policy
- Focus on interlinked targets to amplify output on SCP and across the SDGs
- Higher value interlinking targets are more challenging to address but provide greater reward to policy-makers
- Add in the missing links to create a more integrated framework with more economic targets and those which work towards reducing inequalities
- Interpret potentially conflicting targets such that they complement each other
- Use the 10YFP to maximise output in SCP and non-SCP targets
- Build on the EU's ambition with waste legislation in other weaker areas required for SCP (food waste, business reporting)
- Member States should push the SD agenda and take on responsibility where the EU cannot (education, taxation)
- Harness the Circular Economy proposals to implement integrated policies.

ANNEX A – INTERLINKAGES EVALUATIONS AND SCORING

#	SCP TARGET	NON-SCP TARGET	SUPPORTING		ENABLING				RELYING		SCORE
			Commonly supportive (1)	Mutually supporting (2)	Disabling (0)	Indirectly enabling (1)	Directly enabling (2)	Mutually enabling (3)	Partial Reliance (1)	Full reliance (2)	
	Frequency		17	2	1	4	13	9	19	5	
1	12.1 Implement the 10-Year Framework of Programmes on sustainable consumption and production (10YFP), all countries taking action, with developed countries taking the lead, taking into account the development and capabilities of developing countries	8.4 Improve progressively, through 2030, global resource efficiency in consumption and production and endeavour to decouple economic growth from environmental degradation, in accordance with the 10-year framework of programmes on sustainable consumption and production, with developed countries taking the lead	X					X		X	6
		9.4 By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities"	X					X	X		5
2	12.2 'by 2030 achieve sustainable management and efficient use of natural resources'	2.4 By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality			X		X		X		3
		6.4, By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally	X				X		X		4

#	SCP TARGET	NON-SCP TARGET	SUPPORTING		ENABLING				RELYING		SCORE
			Commonly supportive (1)	Mutually supporting (2)	Disabling (0)	Indirectly enabling (1)	Directly enabling (2)	Mutually enabling (3)	Partial Reliance (1)	Full reliance (2)	
	Frequency		17	2	1	4	13	9	19	5	
2		6.6 By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes	X				X		X		4
		7.2, By 2030, increase substantially the share of renewable energy in the global energy mix				X			X		2
		7.3 By 2030, double the global rate of improvement in energy efficiency				X			X		2
		8.4Improve progressively, through 2030, global resource efficiency in consumption and production and endeavour to decouple economic growth from environmental degradation, in accordance with the 10-year framework of programmes on sustainable consumption and production, with developed countries taking the lead	X					X			4
		11.4 'strengthen efforts to protect and safeguard the world's cultural and natural heritage'	X			X			X		3
		14.2, By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans	X				X		X		4
		14.4, By 2020, effectively regulate harvesting and end overfishing, illegal, unreported and unregulated fishing and destructive fishing practices and implement science-based management plans, in order to restore fish stocks in the shortest time feasible, at least to levels that can produce maximum sustainable yield as determined by their biological characteristics	X					X	X		5

#	SCP TARGET	NON-SCP TARGET	SUPPORTING		ENABLING				RELYING		SCORE
			Commonly supportive (1)	Mutually supporting (2)	Disabling (0)	Indirectly enabling (1)	Directly enabling (2)	Mutually enabling (3)	Partial Reliance (1)	Full reliance (2)	
	Frequency		17	2	1	4	13	9	19	5	
2		14.6 By 2020, prohibit certain forms of fisheries subsidies which contribute to overcapacity and overfishing, eliminate subsidies that contribute to illegal, unreported and unregulated fishing and refrain from introducing new such subsidies, recognizing that appropriate and effective special and differential treatment for developing and least developed countries should be an integral part of the World Trade Organization fisheries subsidies negotiation	X					X		X	6
		14.7, By 2030, increase the economic benefits to Small Island developing States and least developed countries from the sustainable use of marine resources, including through sustainable management of fisheries, aquaculture and tourism	X					X	X		5
		15.1, By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements	X				X		X		4
		15.2, By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally	X				X		X		4
		15.4 By 2030, ensure the conservation of mountain ecosystems, including their biodiversity, in order to enhance their capacity to provide benefits that are essential for sustainable development	X				X		X		4

#	SCP TARGET	NON-SCP TARGET	SUPPORTING		ENABLING				RELYING		SCORE
			Commonly supportive (1)	Mutually supporting (2)	Disabling (0)	Indirectly enabling (1)	Directly enabling (2)	Mutually enabling (3)	Partial Reliance (1)	Full reliance (2)	
	Frequency		17	2	1	4	13	9	19	5	
3	12.3 'by 2030 halve per capita global food waste at the retail and consumer level, and reduce food losses along production and supply chains including post-harvest losses'	2.4 By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality					X				2
4	12.4 'by 2020 achieve environmentally sound management of chemicals and all wastes throughout their life cycle in accordance with agreed international frameworks and significantly reduce their release to air, water and soil to minimize their adverse impacts on human health and the environment'	3.9 'by 2030 substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water, and soil pollution and contamination'		X			X			X	6
		6.3 By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally		X			X		X		5
		14.1 By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution					X		X		3
5	12.5 'by 2030, substantially reduce waste generation through prevention, reduction, recycling, and reuse'	6.3 By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally						X	X		4
		11.6 'by 2030, reduce the adverse per capita environmental impact of cities, including by paying attention to air quality, municipal and other waste management'	X					X	X		5

#	SCP TARGET	NON-SCP TARGET	SUPPORTING		ENABLING				RELYING		SCORE
			Commonly supportive (1)	Mutually supporting (2)	Disabling (0)	Indirectly enabling (1)	Directly enabling (2)	Mutually enabling (3)	Partial Reliance (1)	Full reliance (2)	
	Frequency		17	2	1	4	13	9	19	5	
6	12.6 Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle	n/a									0
7	12.7 Promote public procurement practices that are sustainable in accordance with national policies and priorities	n/a									0
8	12.8 'by 2030 ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature'	4.7 'by 2030 ensure that all learners acquire knowledge and skills needed to promote sustainable development, including among others through education for sustainable development and sustainable lifestyles…'	X					X		X	6
		13.3 Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning	X				X			X	5
9	12.a Support developing countries to strengthen their scientific and technological capacities to move towards more sustainable patterns of consumption and production	9.5 Enhance scientific research, upgrade the technological capabilities of industrial sectors in all countries, in particular developing countries, including, by 2030, encouraging innovation and substantially increasing the number of research and development workers per 1 million people and public and private research and development spending	X				X		X		4
10	12.b Develop and implement tools to monitor sustainable development impacts for sustainable tourism that creates jobs, promotes local culture and products	n/a									0

#	SCP TARGET	NON-SCP TARGET	SUPPORTING		ENABLING				RELYING		SCORE
			Commonly supportive (1)	Mutually supporting (2)	Disabling (0)	Indirectly enabling (1)	Directly enabling (2)	Mutually enabling (3)	Partial Reliance (1)	Full reliance (2)	
	Frequency		17	2	1	4	13	9	19	5	
11	12.c Rationalize inefficient fossil fuel subsidies that encourage wasteful consumption by removing market distortions, in accordance with national circumstances, including by restructuring taxation and phasing out those harmful subsidies, where they exist, to reflect their environmental impacts, taking fully into account the specific needs and conditions of developing countries and minimizing the possible adverse impacts on their development in a manner that protects the poor and the affected communities	13.2 Integrate climate change measures into national policies, strategies and planning				X			X		20

ANNEX B – SCP-SCP INTERLINKAGES

SCP TARGET	SCP TARGET
12.1 Implement the 10-Year Framework of Programmes on sustainable consumption and production (10YFP), all countries taking action, with developed countries taking the lead, taking into account the development and capabilities of developing countries	12.2 'by 2030 achieve sustainable management and efficient use of natural resources'
	12.3 'by 2030 halve per capita global food waste at the retail and consumer level, and reduce food losses along production and supply chains including post-harvest losses'
	12.4 'by 2020 achieve environmentally sound management of chemicals and all wastes throughout their life cycle in accordance with agreed international frameworks and significantly reduce their release to air, water and soil to minimize their adverse impacts on human health and the environment'
	12.5 'by 2030, substantially reduce waste generation through prevention, reduction, recycling, and reuse'
	12.7Promotepublic procurement practices that aresustainablein accordance withnational policies and priorities
	12.8 'by 2030 ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature'
	12.a Support developing countries to strengthen their scientific and technological capacities to move towards more sustainable patterns of consumption and production
	12.b Develop and implement tools to monitor sustainable development impacts for sustainable tourism that creates jobs, promotes local culture and products
12.2 'by 2030 achieve sustainable management and efficient use of natural resources'	12.3 'by 2030 halve per capita global food waste at the retail and consumer level, and reduce food losses along production and supply chains including post-harvest losses'
	12.4 'by 2020 achieve environmentally sound management of chemicals and all wastes throughout their life cycle in accordance with agreed international frameworks and significantly reduce their release to air, water and soil to minimize their adverse impacts on human health and the environment'
	12.5 'by 2030, substantially reduce waste generation through prevention, reduction, recycling, and reuse'
	12.6 Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle
	12.c Rationalize inefficient fossil fuel subsidies that encourage wasteful consumption by removing market distortions, in accordance with national circumstances, including by restructuring taxation and phasing out those harmful subsidies, where they exist, to reflect their environmental impacts, taking fully into account the specific needs and conditions of developing countries and minimizing the possible adverse impacts on their development in a manner that protects the poor and the affected communities
12.3 'by 2030 halve per capita global food waste at the retail and consumer level, and reduce food losses along production and supply chains including post-harvest losses'	12.1Implement the 10-Year Framework of Programmes on sustainable consumption and production (10YFP), all countries taking action, with developed countries taking the lead, taking into account the development and capabilities of developing countries
	12.2 'by 2030 achieve sustainable management and efficient use of natural resources'
	12.4 'by 2020 achieve environmentally sound management of chemicals and all wastes throughout their life cycle in accordance with agreed international frameworks and significantly reduce their release to air, water and soil to minimize their adverse impacts on human health and the environment'
	12.5 'by 2030, substantially reduce waste generation through prevention, reduction, recycling, and reuse'

SCP TARGET	SCP TARGET
12.4 'by 2020 achieve environmentally sound management of chemicals and all wastes throughout their life cycle in accordance with agreed international frameworks and significantly reduce their release to air, water and soil to minimize their adverse impacts on human health and the environment'	12.2 'by 2030 achieve sustainable management and efficient use of natural resources'
	12.5 'by 2030, substantially reduce waste generation through prevention, reduction, recycling, and reuse'
	12.c Rationalize inefficient fossil fuel subsidies that encourage wasteful consumption by removing market distortions, in accordance with national circumstances, including by restructuring taxation and phasing out those harmful subsidies, where they exist, to reflect their environmental impacts, taking fully into account the specific needs and conditions of developing countries and minimizing the possible adverse impacts on their development in a manner that protects the poor and the affected communities
12.5 'by 2030, substantially reduce waste generation through prevention, reduction, recycling, and reuse'	12.1Implement the 10-Year Framework of Programmes on sustainable consumption and production (10YFP), all countries taking action, with developed countries taking the lead, taking into account the development and capabilities of developing countries
	12.3 'by 2030 halve per capita global food waste at the retail and consumer level, and reduce food losses along production and supply chains including post-harvest losses'
	12.4 'by 2020 achieve environmentally sound management of chemicals and all wastes throughout their life cycle in accordance with agreed international frameworks and significantly reduce their release to air, water and soil to minimize their adverse impacts on human health and the environment'
12.6 Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle	
12.7 Promote public procurement practices that aresustainablein accordance withnational policies and priorities	12.1Implement the 10-Year Framework of Programmes on sustainable consumption and production (10YFP), all countries taking action, with developed countries taking the lead, taking into account the development and capabilities of developing countries
12.8 'by 2030 ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature'	12.1Implement the 10-Year Framework of Programmes on sustainable consumption and production (10YFP), all countries taking action, with developed countries taking the lead, taking into account the development and capabilities of developing countries
	12.a Support developing countries to strengthen their scientific and technological capacities to move towards more sustainable patterns of consumption and production
	12.b Develop and implement tools to monitor sustainable development impacts for sustainable tourism that creates jobs, promotes local culture and products
12.a Support developing countries to strengthen their scientific and technological capacities to move towards more sustainable patterns of consumption and production	12.1Implement the 10-Year Framework of Programmes on sustainable consumption and production (10YFP), all countries taking action, with developed countries taking the lead, taking into account the development and capabilities of developing countries
	12.8 'by 2030 ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature'
	12.b Develop and implement tools to monitor sustainable development impacts for sustainable tourism that creates jobs, promotes local culture and products

SCP TARGET	SCP TARGET
12.b Develop and implement tools to monitor sustainable development impacts for sustainable tourism that creates jobs, promotes local culture and products	12.1Implement the 10-Year Framework of Programmes on sustainable consumption and production (10YFP), all countries taking action, with developed countries taking the lead, taking into account the development and capabilities of developing countries
	12.8 'by 2030 ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature'
	12.a Support developing countries to strengthen their scientific and technological capacities to move towards more sustainable patterns of consumption and production
12.c Rationalize inefficient fossil fuel subsidies that encourage wasteful consumption by removing market distortions, in accordance with national circumstances, including by restructuring taxation and phasing out those harmful subsidies, where they exist, to reflect their environmental impacts, taking fully into account the specific needs and conditions of developing countries and minimizing the possible adverse impacts on their development in a manner that protects the poor and the affected communities	12.2 'by 2030 achieve sustainable management and efficient use of natural resources'
	12.4 'by 2020 achieve environmentally sound management of chemicals and all wastes throughout their life cycle in accordance with agreed international frameworks and significantly reduce their release to air, water and soil to minimize their adverse impacts on human health and the environment'

ANNEX C – ANALYSIS OF EU POLICIES AND SDG 12

GOAL 12:SCP TARGET	CURRENT IAEG INDICATOR	RELEVANT EU LEGISLATION AND POLICY	GAPS AND LIMITATIONS	RESPONSIBILITIES ASSIGNED	COMMENTARY AND RECOMMENDATIONS
12.1 Implement the 10-Year Framework of Programmes on sustainable consumption and production (10YFP), all countries taking action, with developed countries taking the lead, taking into account the development and capabilities of developing countries	Number of countries with SCP National Actions Plans or SCP mainstreamed as a priority or target into national policies, poverty reduction strategies and sustainable development strategies	The 10YFP is voluntary to sign up to so there is no legally binding policy on 10YFP EU countries are already playing a substantial role in supporting the logistical delivery of the 10YFP and financing the projects it will fund. As is the EU as a whole: also, contributing to the implementation of the 10YFP through the creation of NAPs, e.g. Czech Republic, Finland, Poland and UK and meeting facilitation. The EU runs three capacity building programmes on SCP for Asia, Africa and the Mediterranean called SWITCH.	Voluntary nature of Framework. The South Eastern Europe (SEE) and Eastern Europe as well as the Caucasus and Central Asia (EECCA) countries have not yet adopted a regional strategy on SCP Countries may have adopted SD policies, mainstreamed into general national policies, but not necessarily reported this back to the 10YFP or produced a NAP. There is no list available on number of EU countries with SCP NAPs	Responsibility for implementation sits with national governments through joining the 10YFP Programme. UNEP lead but UN & Regional bodies have a role in supporting the specific programmes of the 10YFP. Regional groups including WEOG, SEE, EECCA, as well as national and stakeholder focal points, support the implementation of the 10YFP Any country/ stakeholder/ large-scale partner can volunteer to take part in the Multi-Stakeholder Advisory Committee for the 6 10YFP programmes	The policies and legislation included below in this table cover a lot of the 10YFP's aims more specifically and directly EU legislation would not really be relevant to this target, given the nature of the framework (e.g. a focus on building capacity for developing countries, its role as a framework rather than specific policies/ targets) The EU might explore cooperative mechanisms to help ensure EU member states adopt National Action Plans.

GOAL 12:SCP TARGET	CURRENT IAEG INDICATOR	RELEVANT EU LEGISLATION AND POLICY	GAPS AND LIMITATIONS	RESPONSIBILITIES ASSIGNED	COMMENTARY AND RECOMMENDATIONS
12.2 By 2030 achieve sustainable management and efficient use of natural resources	Material footprint (MF) and MF/capita (Grey) Material Footprint of Nations (Wiedmann T et al, 2013) is defined as "the global allocation of used raw material extraction to the final demand of an economy". Raw material covers the headline categories of metal ores, fossil fuels, construction minerals and biomass. Biomass includes crops for human consumption and fodder crops, crop residues, and grazed biomass and biofuels The definition therefore includes initial and subsequent use of the material, insofar as the material is used for the economy	EU policy and legislation with respect to various natural resources includes: Raw materials in general: Resource Efficient Europe – Flagship Initiative under Europe 2020: EU Raw Material Initiative Energy Union 7th Environmental Action Programme Waste Framework Directive proposals 65% recycling of municipal waste will impact indirectly the material footprint Metal ores and construction minerals: Directive 2006/21/EC requires all mines to have a permit based on the "Best Available Techniques" (BAT) approach, encouraging means of recycling, reusing or reclaiming of waste. Biomass: non-legally binding recommendations exist on sustainable use of biomass Fossil fuels: Energy Union policies and Renewable Energy Directive will indirectly impact use of fossil fuels. Energy Efficiency Directive: energy distributors or retail energy sales companies have to achieve 1.5% energy savings per year through the implementation of energy efficiency measures Biodiversity strategy to 2020 presents 6 key targets including requirement to implement EU nature legislation to protect biodiversity, Better protection for ecosystems, and more use of green infrastructure, More sustainable agriculture and forestry, Better management of fish stocks Common Agricultural Strategy arguably prevents sustainable management of water courses, upland habitats etc. 2015 Communication on Circular Economy offers: potential requirements for recyclability of electronic devices Mining waste guidance and best practice in 2018 to improve raw materials recovery. Revise the EU Fertiliser Regulation 2003 to recognise organic and waste-based fertilisers and support the role of bio-nutrients, Developing quality standards for secondary raw materials to increase market confidence. Adopting a waste-to-energy initiative for waste that cannot be used otherwise under the waste hierarchy.	Policy in this area tends not to be legally binding, save the Energy Efficiency Directive (as applicable) and Waste Framework Directive - these legally binding policies are not directly associated with resource use, but rather deal with recycling of material Where a percentage decrease in use of energy is required, the figure is low at 1.5%	EU conducts its own broad-ranging policy on resource efficiency National bodies including regional and local authorities responsible for industry, waste management, sustainability would implement EU-derived policies	As a whole the four broad policy initiatives are ambitious in scope. EU requirements on recycling do act to reduce material footprint Given that the level of 'efficient use' and the reduction in material footprint is unspecified, it is possible that this target could be met without much change having taken place NB The revised Waste Framework package notably omits the 2014 package target of 30% resource efficiency by 2030 relative to 2014.

GOAL 12:SCP TARGET	CURRENT IAEG INDICATOR	RELEVANT EU LEGISLATION AND POLICY	GAPS AND LIMITATIONS	RESPONSIBILITIES ASSIGNED	COMMENTARY AND RECOMMENDATIONS
12.3 By 2030 halve per capita global food waste at the retail and consumer levels, and reduce food losses along production and supply chains including post-harvest losses	Global Food Loss Index (GFLI) (under development in FAO)	New measures to promote prevention, including for food waste, and re-use included in proposal to amend waste directive 2008/98/EC - In this proposal, it says Member states should comply with UN SDG 12.3 and establish specific measures and monitoring systems to achieve it - para 12: Commission may adopt implementing acts to establish indicators Commission shall adopt an implementing act to establish methodology Also included: a common measurement methodology, improved date marking The Waste Framework Directive 2008 does not reference food waste specifically, but it falls into the definition of 'waste', so waste management plan requirements etc. apply (50% recycling/reuse from households) EU has adopted a Communication on halving food waste non-legislative proposal 2012 (Practical Law) EU Commission co-chairs European Food Sustainable Consumption and Production Round Table	The mention of 'halving' per capita global food waste as per SDG target 12.3 only exists in the preamble to the proposed revision. The legally binding aspect only uses the word 'reduce', not 'halve', and does not explicitly cover retail, consumer, production and supply chains, post-harvest losses	This revised directive would necessitate MS governments to implement the policies through its own legislation, hence the national bodies responsible for food/agriculture/business would be responsible for implementation	New proposals aim to reduce but not halve current food wastage at all levels mentioned in the target - a potential mismatch in alignment food wastage The EU Food Waste web page also claims EU will take measures to clarify EU legislation related to waste, food and feed and facilitate food donation and the use of former foodstuffs and by-products from the food chain for feed production, without compromising food and feed safety - if fulfilled, these would aid attainment of target 12.2
12.4 By 2020 achieve the environmentally sound management of chemicals and all wastes throughout their lifecycle in accordance with agreed international frameworks and significantly reduce their release to air, water and soil to minimize their adverse impacts on human health and the environment	Number of Parties to international multilateral environmental agreements on hazardous and other chemicals and waste that meet their commitments and obligations in transmitting information as required by each relevant agreement We identify the relevant agreements as the Rotterdam, Stockholm & Basel Conventions and Montreal Protocol, and the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, (London Convention) amended in 2006 (London Protocol)	Articles 17 to 20 of Directive 2008/98/EC on hazardous waste: additional labelling, record keeping, monitoring and control obligations from the "cradle to the grave" and stricter permit exemptions for hazardous waste - will have indirect not direct impact on whether there is reduced release into air, water or soil Article 12 & 13 on waste disposal and protection of human health and environment: 'Member States shall take the necessary measures to ensure that waste management is carried out without endangering human health, without harming the environment and, in particular: (a) without risk to water, air, soil, plants or animals…' Industrial Emissions Directive 2010 limits release of emissions into air and water including specific quantities specific reference to carbon dioxide as a chemical pollutant and emission reductions targets through the Climate and energy 2020 package and 2030 framework and regulation around air quality in particular in Directive 2008/50/EC Circular Economy Package Communication on circular economy includes a target for significantly reducing marine litter by 30% by 2020. The EU is a party itself of the Rotterdam, Stockholm & Basel Conventions, and Montreal Protocol, and is bound by the conventions or protocols to fulfil its obligations with regards to each agreement	EU is not a signatory to the London Convention but many MSs are signatories Art 13 of Directive 2008/98/EC doesn't require a specific level of reduction of chemicals' release into air/water/soil but helps to ensure the aim of the target: that there is no risk to human health and the environment	The EU treaties determine EU's ability to sign up to international agreements Waste management is a shared competence - art 4(2)(e) TFEU. The directives we cite here require Member states to implement these requirements in their domestic systems. Member States are permitted to sign up to international agreements regardless of and in addition to the EU	Overall this target is covered quite well by current EU legislation. International frameworks can be signed up to and adhered to in parallel with EU legislation, so the EU cannot be said to conflict with the aim to achieve environmentally sound management of chemicals and all wastes throughout their life cycle in accordance with these agreements. The wording of the 2008 Waste Framework Directive calls for the complete removal of adverse impacts on human health and the environment - setting the ambition higher than "minimizing", however it could achieve this without 'significantly reducing' chemicals' release to air, water and soil, but purely by releasing chemicals 'without risk to water, air, soil…' which is not the same thing ('risk' is not defined in the directive)

GOAL 12:SCP TARGET	CURRENT IAEG INDICATOR	RELEVANT EU LEGISLATION AND POLICY	GAPS AND LIMITATIONS	RESPONSIBILITIES ASSIGNED	COMMENTARY AND RECOMMENDATIONS
12.5 By 2030, substantially reduce waste generation through prevention, reduction, recycling, and reuse	National recycling rate, tonnes of material recycled N.B. Challenges: no reference to reuse/ reduction/ prevention. + 'Substantial' is not specific	Circular Economy Package includes proposals for new targets and directives on landfill waste, packaging, batteries and electronics and amendments to previous directives, such as 2008 Waste Framework Directive, (65% by weight for preparing municipal waste for re-use and recycling by 2030, recycling target of 75% by weight for packaging waste by 2030) The 2008 directive establishes a waste management hierarchy, requires waste management plans to be established, and sets goals including 50% preparing for re-use and recycling of certain waste materials from households and other origins similar to households, and 70% preparing for re-use, recycling and other recovery of construction and demolition waste by 2020 Other current legislation includes Waste electrical and electronic equipment (WEEE) Packaging waste Landfill, End of life vehicles, Waste batteries directives. NB. The new proposals for the Waste Framework Directive aim to consolidate these directives.	Some EU countries have until 2035 to achieve the same goals as other countries, however they will still have achieved 'substantial' progress by 2030 The three main targets of the new proposals cover municipal waste, packaging and landfill, so non- municipal waste is neglected (see earlier definition of waste in the Directive) It should be noted that Waste has gone up in some categories despite these policies	DG Environment is responsible for the legislation, but as they are directives, the responsibility lies with the MS to design and enact appropriate national legislation The appropriate national body that deals with waste management would then be responsible for implementation National state of implementation tends to be very variable	The circular economy package is an ambitious proposal. There is still room for improvement (e.g. it offers a 10% not 0% maximum of waste put to landfill, recycling 65% of municipal waste, 75% of packaging waste), particularly as the 2014 legislation proposals were more ambitious but all targets nevertheless represent substantial improvements. The proposed legislation covers all words 'prevention, reduction, recycling and reuse' given specific targets on reuse and recycling and policies focusing on promoting prevention, reuse and recycling e.g. through economic incentives. Current legislation also will substantially reduce waste generation through recycling and reuse, and changing definitions on waste. The revised package notably omits the 2014 package target of 30% resource efficiency by 2030 relative to 2014.
12.6 Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle	Number of companies publishing sustainability reports	Directive 2014/95/EU requires large undertakings to provide a non-financial statement on 'the group's development, performance, position and impact of its activity, relating to, as a minimum, environmental, social and employee matters, respect for human rights, anti-corruption and bribery matters' by identifying risks, indicators and relevant policies. The deadline for implementation into national legislation is December 6, 2016. The Commission will publish non-mandatory guidelines on methodology for December 6 2016 The EU indirectly encourages companies to adopt sustainable practices through GPP, Energy Labelling Regulations, Eco-design, Sustainable Industry Low Carbon programmes. Corporate Social Responsibility policies are not legally binding in the EU	The ambition to require sustainability reporting exceeds 12.6. 'Adoption of sustainable practices' is broad and may be covered by the policies mentioned on the left	EU has shared competence in respect of an internal market for banking and finance, expressed in directive 2014/95/EU. The directive will oblige MSs to implement appropriate legislation before the required time. There is significant flexibility for companies to disclose relevant information (including reporting in a separate report), in formats following international, European or national guidelines (e.g. the UN Global Compact, the OECD Guidelines for Multinational Enterprises, ISO 26000, etc.). see source Further possibilities for exemptions are identified in the directive.	The EU surpasses the target by requiring in law that large companies (public-interest entities of over 500 employees) carry out sustainable reporting The EU is encouraging MSs to adopt sustainable practices through its various policies on the green economy and product design and labelling

GOAL 12:SCP TARGET	CURRENT IAEG INDICATOR	RELEVANT EU LEGISLATION AND POLICY	GAPS AND LIMITATIONS	RESPONSIBILITIES ASSIGNED	COMMENTARY AND RECOMMENDATIONS
12.7 Promote public procurement practices that are sustainable in accordance with national policies and priorities	Number of countries implementing Sustainable Public Procurement policies and action plans Challenges: 'promotion' and 'national policies'	GPP (Green Public Procurement) policy framework exists but no legally binding policies. 2015 Circular economy communication includes proposal to complete actions on green public procurement (GPP), including new or revised criteria to emphasise circular economy aspects and leading by example through Commission procurement. 2003 Communication on Integrated Product Policy (IPP) encouraged Member States to draw up publicly available National Action Plans (NAPs) for greening their public procurement - 23/28 countries submitted their NAPs (see this document, correct as of Nov 2014) Public procurement directives stipulate that environmental factors can be taken into account in contracts, under certain conditions. More broadly, 2014/24/EC stipulates that EU member states shall take appropriate measures to ensure compliance with environmental, social and labour law' - art18(2) 2014/24/EC	GPP policy is not legally binding and Case law has limited the use of GPP in contracts 5/28 countries have not submitted the National Action Plans invited by the 2003 communication. The EU itself is not part of the NAPs document. Its sustainable procurement rules only say that a contract could have an environmental factor.	DG Environment leads on promotion of Green Public Procurement and encouraging NAP.	EU did promote sustainable public procurement practices in 2003 with 23/28 states submitting their associated national policies. NAPs allow Member States to choose the options that best suit their political framework and the level they have reached - however the NAPS are not binding, nor is there a requirement for the remaining 5 countries to submit their policies Circular economy package actions are yet to be completed. Overall, there is evidence of EU promotion, in line with the ambition of the SDG target.
12.8 By 2030 ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature	Number of countries reporting inclusion of sustainable development and lifestyles topics in formal education curricula (yellow)	European Council issued a notice in 2011 underlining the importance of Education for Sustainable Development and urging for the inclusion of sustainable development into formal curricula	At least 10 countries were reported to have ESD national plans according to UNECE in 2011, with more detailing ESD in national documents	EU has supporting competence only in the area of education - hence, it cannot legislate on contents of member states' curricula. MS governments and national education bodies are responsible for integrating ESD themselves	There is a lack of information available guiding us on whether the indicator has been fulfilled A non-binding mechanism to ensure ESD national action plans are in place, could be in line with the EU's sharply limited competence.
12.a Support developing countries to strengthen their scientific and technological capacities to move towards more sustainable patterns of consumption and production	Number of qualified green patent applications (yellow) = Number of qualified patents granted annually in developing countries, for SCP products / innovations	European Commission (EC) is implementing in partnership with UNEP a four-year project, Promoting Resource Efficiency and Eco-innovation in Developing and Transition Economies (REEDTE) The project aims to change consumption and production patterns in developing and transition economies by encouraging businesses to reduce their environmental footprint. The Paris Agreement on climate change, to which EU is a signatory, recognises need for knowledge transfer and capacity building for developing countries 9th priority objective of 7th Environment Action Programme The EU undertakes General capacity building development work, and the EU response to the SDGs notes a commitment to more of this.	Green patent applications are measured differently in different countries, or not at all, hence it is very difficult to monitor green patent applications Content on capacity building in Paris agreement not legally enforceable but parties are legally obliged to report on their capacity transfer efforts	EU as a whole and countries of the EU are signed up to the COP 21 Paris agreement, so the relevant bodies would be responsible individually and as a unit. EC is responsible for partnership with UNEP in REEDTE	Very difficult to monitor numbers of qualified green patent applications However, more broadly, the Paris agreement should bolster current efforts (including REEDTE) to encourage scientific and technological capacities in developing countries

GOAL 12:SCP TARGET	CURRENT IAEG INDICATOR	RELEVANT EU LEGISLATION AND POLICY	GAPS AND LIMITATIONS	RESPONSIBILITIES ASSIGNED	COMMENTARY AND RECOMMENDATIONS
12.b Develop and implement tools to monitor sustainable development impacts for sustainable tourism that creates jobs, promotes local culture and products	Residual flows generated as a result of tourism direct GDP (derived from an extended version of the System of Environmental-Economic Accounting (SEEA) for tourism) (grey)	A voluntary European Tourism Indicators System for sustainable destination management exists – this is a comprehensive and simple tool to help destinations measure and monitor their sustainable management performance and enhance their sustainability, currently finishing its second pilot phase. It includes indicators that measure economic, social and cultural, jobs, environmental impact See also The 2007 agenda for sustainable and competitive EU tourism; an EU guidebook prepared as part on a EU aid project on sustainable tourism in developing countries]	Any gap here depends on how stringent we take the SDG target to be.	Voluntarily used by tourism agencies, companies, or imposed by local/ national tourism authorities	The tool has been developed very thoroughly, however, here is no information on how many tourism sites have used the system since the 2nd pilot phase has finished. (however 86 sites took part in the pilot phases from across the EU, which could lead to a high uptake)
12.c Rationalize inefficient fossil fuel subsidies that encourage wasteful consumption by removing market distortions, in accordance with national circumstances, including by restructuring taxation and phasing out those harmful subsidies, where they exist, to reflect their environmental impacts, taking fully into account the specific needs and conditions of developing countries and minimizing the possible adverse impacts on their development in a manner that protects the poor and the affected communities	Amount of fossil fuel subsidies, per unit of GDP (production and consumption), and as proportion of total national expenditure on fossil fuels	Europe2020 (policy) as a recommendation Phasing out environmentally harmful subsidies for 2020 is a “milestone” on the roadmap to a resource-efficient Europe, though this has no binding force. This is reflected in the Proposal for European Energy Union (COM/2015/080 final) Related recommendations include: Restructure vehicle taxation and/or phase out environmentally harmful subsidies such as reduced VAT rates on energy products and income tax expenditures for the private use of company cars.	Europe2020 policies are recommendations only, that could be, (and in the past, have been assessed) in the open method of coordination	EU does not have the competence to legislate an end to subsidies for fossil fuels, but can recommend that states do so – as it has done so in Europe2020 and the proposal for European Energy Union.	EU has encouraged reform through Renewable Energy Directive, Emissions Trading Scheme and its recommendations but could identify fossil fuel subsidies as a specific recommendation in country specific recommendations.

ANNEX D – DEFINING THE SCP TARGETS

TARGET	CURRENT IAEG INDICATOR (GREEN UNLESS OTHERWISE STATED)	BIOREGIONAL'S CLARIFICATIONS
12.1 Implement the 10-Year Framework of Programmes on sustainable consumption and production (10YFP), all countries taking action, with developed countries taking the lead, taking into account the development and capabilities of developing countries	Number of countries with SCP National Actions Plans or SCP mainstreamed as a priority or target into national policies, poverty reduction strategies and sustainable development strategies	
12.2 By 2030 achieve sustainable management and efficient use of natural resources	Material footprint (MF) and MF/capita (Grey)	We understand material footprint from the definition of Material Footprint of Nations (Wiedmann T et al, 2013) as "the global allocation of used raw material extraction to the final demand of an economy". Raw material covers the headline categories of metal ores, fossil fuels, construction minerals and biomass. Biomass includes crops for human consumption and fodder crops, crop residues, and grazed biomass and biofuels. Raw materials can also be said to include ecosystems and their benefits.
12.3 By 2030 halve per capita global food waste at the retail and consumer levels, and reduce food losses along production and supply chains including post-harvest losses	Global Food Loss Index (GFLI)	Types of food loss and waste covered include that resulting from agricultural production, post-harvest handling and storage, processing, distribution and consumption.
12.4 By 2020 achieve the environmentally sound management of chemicals and all wastes throughout their life cycle in accordance with agreed international frameworks and significantly reduce their release to air, water and soil to minimize their adverse impacts on human health and the environment	Number of Parties to international multilateral environmental agreements on hazardous and other chemicals and waste that meet their commitments and obligations in transmitting information as required by each relevant agreement	Chemicals and waste are unused by-products of manufacturing, services and consumption, including hazardous chemical wastes and municipal refuse. Pollutants and carbon dioxide can be seen as 'wastes' but they are very widely diffused in air, soil and water. Other examples include fertilisers or black liquor from paper production, or air pollutants like carbon monoxide released from vehicles. These less widely distributed products represent a wasteful use of natural resources and cause significant environmental problems if they are not treated or disposed of appropriately. The international agreements, such as Rotterdam, Stockholm & Basel Conventions and Montreal Protocol, deal with chemical pollution such as mercury.
12.5 By 2030, substantially reduce waste generation through prevention, reduction, recycling, and reuse	National recycling rate, tonnes of material recycled	Waste here refers to non-degradable items. This would exclude food products themselves but could include packaging.
12.6 Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle	Number of companies publishing sustainability reports	
12.7 Promote public procurement practices that are sustainable in accordance with national policies and priorities	Number of countries implementing Sustainable Public Procurement policies and action plans	
12.8 By 2030 ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature	Number of countries reporting inclusion of sustainable development and lifestyles topics in formal education curricula (yellow)	
12.a Support developing countries to strengthen their scientific and technological capacities to move towards more sustainable patterns of consumption and production	Number of qualified green patent applications (yellow)	

TARGET	CURRENT IAEG INDICATOR (GREEN UNLESS OTHERWISE STATED)	BIOREGIONAL'S CLARIFICATIONS
12.b Develop and implement tools to monitor sustainable development impacts for sustainable tourism that creates jobs, promotes local culture and products	Residual flows generated as a result of tourism direct GDP (derived from an extended version of the System of Environmental-Economic Accounting (SEEA) for tourism) (grey)	
12.c Rationalize inefficient fossil fuel subsidies that encourage wasteful consumption by removing market distortions, in accordance with national circumstances, including by restructuring taxation and phasing out those harmful subsidies, where they exist, to reflect their environmental impacts, taking fully into account the specific needs and conditions of developing countries and minimizing the possible adverse impacts on their development in a manner that protects the poor and the affected communities	Amount of fossil fuel subsidies, per unit of GDP (production and consumption), and as proportion of total national expenditure on fossil fuels	

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