

Governing sustainability in the garment sector

The European Union's action agenda

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Abstract

The garment sector has increasingly attracted attention over the last years, due to it being an important contributor to the increasing pressure on planetary boundaries. While not only representing one of the world's largest consumer industries, but also, a growing sector, trends are indicating towards its negative environmental and social impacts rising further. As the call for an urgent paradigm shift has been voiced, the EU has responded to this challenge by offering solutions that act as a subset of the SD framework.

The aim of this research was therefore to contribute to the development of coherent policy measures aiming to enhance sustainability of the garment sector. A discourse analysis enabled to investigate the current European environmental policy development, which has been strongly shaped by the Green Economy (GE) theory. The European Commission has utilised the GE theory because it promises a framework capable in reaching a transition towards an economic model that is in line with planetary boundaries. The resulting policy discourse has further laid the foundation for the Circular Economy (CE) and Sustainable Supply Chain Management (SSCM) sustainability strategies to arise and be chosen as suitable concepts to address the environmental challenges of the garment sector. An in-depth analysis of two recent European initiatives, namely the EU Garment Initiative and the European Clothing Action Plan, has further enabled an examination of the overlaps and potential reinforcement of the two concepts.

What has become clear is that the CE and SSCM concepts should not be competing for attention but rather mutually reinforce each other, as their principles and conceptual elements go hand in hand. The mutual reinforcement of both concepts can therefore offer a more nuanced and integrative approach to finding the right solutions to enhance the overall sustainability of the garment sector at the EU level.

Keywords: European Union, sustainable garment governance, green economy, circular economy, sustainable supply chain management, planetary boundaries, environmental sustainability

Executive Summary

Background and problem definition

The garment industry has a responsibility to improve its environmental performance. As one of the largest industries it has a vital interest in securing a prosperous and sustainable future. Environmental impacts are enormous and continuously growing, which is why they will need to be addressed effectively.

A broad consensus has established itself around the fact that a transition of the current production-consumption system of the garment industry is urgently required if its long-term prosperity is to be ensured. While signs of movement in that direction are apparent, as evidenced by the various initiatives and policies put in place to govern the garment industry, the promotion of a truly sustainable garment industry is still falling short compared to what is required at present. A number of stakeholders argue that, in order to effectively and equitably transition towards a sustainable garment industry, efforts will be needed that go deeper and faster than voluntary measures and market mechanisms allow.

Purpose statement and research questions

As the call for an urgent paradigm shift has been voiced, the EU has responded to this challenge by offering solutions that act as a subset of the Sustainable Development framework.

The aim of this research was therefore to contribute to the development of coherent policy measures aiming to enhance sustainability of the garment sector. A number of research objectives were outlined for the purpose of precision:

- (1) Explore the current Green Economy (GE) policy discourse and outline the two solution frameworks of Circular Economy (CE) and Sustainable Supply Chain Management (SSCM) which are being propagated at the EU level in order to advance a sustainable garment industry model.
- (2) Systematically analyse the resulting policy landscape undertaken by the EU with regard to the creation of a sustainable garment governance structure.
- (3) Investigate where the conceptual elements of CE and SSCM overlap, what differences exist, and if they mutually reinforce each other, and thereby, contribute to or hinder the development of an EU governance structure that effectively addresses sustainability issues in the garment industry.

Overview of the methodology

The work was driven by a deductive research design, which included a combination of methods of data collection and analysis that build up on one another. Choosing a qualitative research approach, the initial stage of the research helped conceptualising the overall research context. To address RO(1) a discourse analysis was based on the various conceptual elements and thematic priorities of the GE theory, as well as the two concepts of CE and SSCM, outlined in the theoretical framework.

For the execution of the RO(2) the so-called GE discourse adopted at the EU level was systematically analysed. The discourse analysis was based on sources ranging from policy documents to various other published studies carried out by recognised organisations. This enabled to gain multiple view points from different stakeholders ensuring triangulation of the data. As an object of analysis, the EU was chosen as it represents an important player in shaping the policies that could affect the global garment industry. In addition, it has started to address

the topic by initiating a few projects and is slowly starting to advocate for changes in the conduct of this particular production-consumption system.

Consequently, the RO(3) builds up on the data gathered for the precedent RO(1) and RO(2). In order to gain a full understanding of where the conceptual elements of CE and SSCM overlap and what differences exist, their conceptual elements were first outlined in the theoretical framework. An in-depth analysis of two recent European initiatives, namely the EU Garment Initiative and the European Clothing Action Plan, has further enabled the examination of the overlaps and potential reinforcement of the two concepts.

Major findings and recommendations

The findings of this research indicate that broader action will be required to enable a real sustainability transition of the garment sector. Targeted at the main audience for this thesis, policy makers have a set of options that they can engage in to promote and develop coherent policy measures aimed at enhancing the sustainability of the garment industry.

For one, joining forces at the EU level can provide an extensive level playing field that avoids a comparative advantage for companies not in line with sustainability requirements. While the EU institutions are best placed to promote and facilitate a sustainable garment governance framework, the recent efforts undertaken will need to be scaled up and translated into concrete action through the adoption of a 'whole-of-government' approach. A stronger discourse on a sustainable garment governance model also needs to be fuelled, and a definition for 'a sustainable garment industry' outlined in order for a common and harmonised understanding of the term to arise that leaves no room for misinterpretation.

Policy makers will also need to address environmental issues tied to demand and consumer behaviour in a stronger manner. This should additionally be supported by including the concept of sufficiency within the dominant environmental policy discourse at the EU level, which could potentially lead to limiting consumption by way of appealing to the altruistic motivation of consumers.

The last point that should be made is that more attention on policy coherence in the development of strategies targeted at the garment sector is required. The CE and SSCM concepts should guide environmental policy making in a way that they mutually reinforce each other when looking for specific solutions targeted at the garment industry. Thinking in circles rather than linear value chains can inspire the garment industry to seek optimisations and innovations that benefit the entire system it operates in. This mutual reinforcement can therefore offer a more nuanced and integrative approach to finding the right solutions to enhance the overall sustainability of the garment sector.

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Abbreviations

| | |
|----------|---|
| BCG | Boston Consulting Group |
| BCI | Better Cotton Initiative |
| CE | Circular Economy |
| CoR | Committee of the Regions |
| Council | Council of the European Union |
| DG | Directorate-General |
| DG DEVCO | Directorate-General for International Cooperation and Development |
| DG ENV | Directorate-General for Environment |
| EAP | Environment Action Programme |
| EC | European Commission |
| ECAP | European Clothing Action Plan |
| EEA | European Environment Agency |
| EFA | European Free Alliance |
| EMF | Ellen MacArthur Foundation |
| EP | European Parliament |
| EPR | Extended Producer Responsibility |
| EU | European Union |
| FWF | Fair Wear Foundation |
| GDP | Gross Domestic Product |
| GE | Green Economy |
| GFA | Global Fashion Agenda |
| GHG | Greenhouse Gas |
| GSCM | Green Supply Chain Management |
| ILO | International Labour Organisation |
| JRC | Joint Research Centre |
| ISO | International Organization for Standardization |
| LCA | Lifecycle Assessment |
| LCT | Lifecycle Thinking |
| MEP | Member of the European Parliament |
| NGOs | Non-Governmental Organisations |
| OECD | Organisation for Economic Co-operation and Development |
| PCD | Policy Coherence for Development |

| | |
|-------|---|
| RO | Research Objective |
| SCAP | Sustainable Clothing Action Plan |
| SCM | Supply Chain Management |
| SCP | Sustainable Production and Consumption |
| SD | Sustainable Development |
| SDGs | Sustainable Development Goals |
| SMEs | Small and Medium-sized Enterprises |
| SSCM | Sustainable Supply Chain Management |
| SWD | Staff Working Document |
| UNECE | United Nations Economic Commission for Europe |
| UNEP | United Nations Environmental Programme |
| WFD | Waste Framework Directive |
| WRAP | Waste and Resources Action Programme |

1 Introduction

Global resource consumption is expected to continue to grow significantly due to population increase, a worldwide growing middle class and an increasing resource use per person as average income rise (UNEP, 2017). Critics are casting doubts on whether the planetary resource base will be able to accommodate the future needs of the global economy and human societies (Boulding, 1966; Rockström, et al., 2009). Growing alerts of scientists are further highlighting that planetary boundaries for resource use and pollution have already been crossed or are in the process of being crossed for various environmental impact categories (Steffen et al., 2015). The safe operating space of the planet has already been exceeded in the areas of climate change, waste pollution, changes in land use and biochemical input (GFA & BCG, 2017). This in turn means that they pose higher risks of destabilizing the state of the planet in terms of environmental changes that could have detrimental effects for the world economy.

One sector that has increasingly attracted attention over the last years, due to it being an important contributor to the increasing pressure on planetary boundaries, is the textile system, and more specifically garments. While not only representing one of the world's largest consumer industries generating €1.5 trillion in annual apparel and footwear revenues in 2016 (GFA & BCG, 2017), but also, a growing sector, trends are indicating towards its negative environmental and social impacts rising further (EMF, 2017a). Projections for 2030 have shown that if the global population rises to 8.5 billion people followed by a Gross Domestic Product (GDP) growth per capita of 2% annually in the developed world and 4% in the developing world, the overall apparel consumption will rise by 63%, namely from 62 million tons to 102 million tons (GFA & BCG, 2017). While not being the most evident contributor, the recent Pulse of Fashion industry report has highlighted that the garment industry needs to address its current modus operandi if it does not want to face restrictions of some of its key input factors and its long-term growth potential. It further demonstrates that the monetary value at stake resulting from the industry's externalities will amount to €110 billion from environmental pressures and €50 billion from social pressures by 2030 (GFA & BCG, 2017).

A systemic change in the garment industry is therefore being called for by a multitude of actors (Circle Economy, 2017; Cobbing & Vicaire, 2017; Kinden, 2017; WEF, 2014). The strong promotion of various opportunities tied to a systemic change, such as innovation, job creation, and economic growth, have further contributed to the increasing amount of initiatives put in place by global players of the industry. These include for example C&A or H&M which have created partnership with non-governmental organisations (NGOs) like the Ellen MacArthur Foundation or public research foundations like the Swedish Foundation for Strategic Environmental Research, Mistra Future Fashion (C&A Foundation, n.d.; EMF, 2017b; Mistra Future Fashion, 2017).

In this context, the potential for addressing these pressing issues can be seen in the switch to patterns of sustainable production and consumption (SCP) that are less environmentally damaging. For once, increasing resource efficiency could help alleviate some of the growing environmental impacts associated to the entire lifecycle of garments. This entails either adding greater value or maintaining the value of resources by keeping them in use for longer (EC, 2015). The importance of change has been further highlighted through the signing of two agreements that underline the global community's shared will to achieve a sustainable future based on the long-term protection of the world's resources for the benefit of current and future generations (UNEP, 2017). These agreements include the 2030 Agenda for Sustainable Development (SD) with its 17 aspiring Sustainable Development Goals (SDGs) (UN, n.d., a) and the Paris Agreement on Climate Change (UNFCCC, 2015) which have accelerated the

mainstream political and business agendas. However, while the landscape for change is ambitious, individual commitment and action from a variety of players will not be able to accomplish these goals (GFA & BCG, 2017). Leadership and coordinated participation is therefore crucial to institute a widespread adoption of measures that help to achieve the vision of a better industry. Policy makers and regulators are among the most influential stakeholder groups in shaping a company's sustainability agenda and need to act by "*amplifying change with supportive incentives - or in interfering with strong dictates when the industry moves too slowly*" (GFA & BCG, 2017, p.3). Consequently, in order to secure the benefits that increased resource efficiency can offer public policy measures are necessary to ensure a resource and environmental governance structure for the garment industry.

In essence, the socio-ecological resilience of the garment system has not only been on the radar of scholars such as Rockström et al. (2009) but has also increasingly gained the attention of civil society, policy makers and the garment industry. The linear approach of take-make-dispose it operates in, but also trends such as fast consumption coupled with a steady decline of product lifetimes, have contributed to the industry's weak performance regarding sustainability. New models that conceive of an economy within planetary boundaries need to be established and supported by laws and institutions (Snick, n.d.).

1.1 Context of research

The system the garment industry currently operates in uses an immense amount of non-renewable resources and produces various negative impacts on the environment. Impacts stem especially from the high water and energy use, emitted chemicals and greenhouse gases that occur during the production phases (Remy, et al., 2016). Adding to this, falling costs, streamlined operations, and rising consumer spending have incited global clothing production to double from 2000 to 2014 (Remy, et al., 2016). The compression of production cycles and an acceleration in the design and marketing of clothing have further added to the fast-paced rate at which clothes are being consumed and discarded, especially, since post-purchase choices further add to the overall sustainability impact of a garment's lifecycle. The disposal of clothes is additionally problematic as efficient recycling methods or large enough markets to absorb the volume of secondary material are often not available (Franco, 2017). Recycling amounts to only 1% of material used for the production of new clothing, while 87% of the total fibre input used for clothing is either landfilled or incinerated, which represents a loss of more than USD 100 billion worth of materials annually (EMF, 2017; Fischer and Pascucci, 2017). The after-use collection of discarded garment also differs largely within the EU. While Germany for example reaches a collection rate of 75%, most other countries do not have relevant infrastructures in place. Essentially, the garment system not only operates in a linear way causing immense environmental pressures but has also developed to be bound to fast consumption patterns resulting in clothing being massively underutilised.

At present, more than 70% of EU imports of textile and clothing come from Asia alone, with further imports coming from countries outside of the EU such as Turkey, several East African nations, and others (Richero & Ferrigno, 2016). In light of the Rena Plaza incident in Bangladesh which took place in 2013, major issues affecting the sustainability of the garment value chain have started to surface and to be publicly discussed. Issues include primarily the environmental impact of the garment industry but also insufficient transparency between stakeholders in the supply chain, dubious subcontracting and commercial practices, the conditions of garment workers, or the slow adaptation of more ethical consumption behaviours. Given the highly complex and fragmented production networks of the garment value chains, the need to find sustainable approaches has been strongly emphasised by various stakeholders (Remy, Speelman, & Swartz, 2016). However, the presence of a globalized free

trade regime and the state sovereignty issue are largely limiting cross border governmental regulation that could effectively address production processes (Jastram & Schneider, 2015). This is especially true for an industry that heavily relies on subcontracting, outsourcing and international value creation (Caniato, et al., 2012; Strähle & Müller 2017). Additionally, costs and strong competition for order volumes with international buyers often lead to the violation of social and environmental standards at the factory level (ILO, 2014).

A growing number of European NGOs and consumer associations are therefore increasingly raising concerns about the sustainability level of the textile industry especially with regard to the environment and morally acceptable working conditions in exporting countries (Richero & Ferrigno, 2016). Various studies and reports have started to build up on that increased awareness and are urging the need for appropriate and effective regulations to be formulated in the context of a globalised garment industry in order to enhance its overall sustainability levels (Circle Economy, 2017; Cobbing & Vicaire, 2017). As the call for an urgent paradigm shift has been voiced, the EU has responded to this challenge by offering solutions that act as a subset of the SD framework.

The transition towards an economy in line with planetary boundaries has been supported to a great extent by the **Green Economy (GE) theory**. With regard to the garment industry, two concepts offering solutions to pressing sustainability issues have gained momentum in EU policy making circles. These include the **Circular Economy (CE) concept** and the **Sustainable Supply Chain Management (SSCM)**. All three concepts will be presented in greater detail in the upcoming Chapter 3.

- ❖ The GE theory is based on the idea of an economy that aims for sustainable development without degrading the environment. It advocates for the role of environmental policies to create opportunities for new investments that can help to inform the transition towards a more efficient and resource saving economy. It therefore ultimately aims at decoupling economic growth from resource extraction by the main use of eco-efficiency and low-resource technologies supported by market-oriented policies (Hepburn and Bowen, 2013).
- ❖ Acting as an action agenda, the CE concept proposes a model in which goods and materials are kept in circulation for as long as possible and in which waste is recycled to become a primary resource for new products (Snick, n.d.). Hereby, it pushes the boundaries of environmental sustainability by emphasising the idea of designing material flows of products based on the idea of long term economic growth (Geissdoerfer, et al., 2017). It further offers a multi-stakeholder framework based on entrepreneurship, innovation and collaboration (Genovese, et al., 2017). Thus, a persistent approach to collaborative implementation across and within value chains is needed in order to transition to a CE (Circle Economy, 2018).
- ❖ The concept of SSCM offers an approach to integrate environmental and social concerns into organisations by either minimising material flows or reducing unintended negative consequences of production and consumption processes. It thereby challenges some of the socio-economic structures put in place by a linear economy ideology (Genovese, et al., 2017). It further offers a strategic approach whereby companies can gain a competitive advantage and is primarily underpinned by product lifecycle thinking just like the CE concept.

While these concepts have been picked up at the EU level by different Directorate-Generals (DGs) of the EC, a first policy proposition specifically targeting the sustainability issues in the industry includes the **EU Flagship Initiative on the garment sector** (hereafter: **EU Garment Initiative**) (Parliament Resolution (2016/2140(INI))). A Commission Staff Working Document (SWD) was published shortly after, outlining that development cooperation would be an effective tool to encourage private companies and governments in third countries to fulfil their sustainability commitments (Commission Communication SWD(2017)147 final). This document proposes various thematic priorities and intervention areas to help maximize the benefits of EU garment-related development cooperation activities. It lays out various measures such as dialogue, capacity-building, awareness-raising, and technical assistance to support the implementation of trade and other bilateral agreements (EP, 2018). Another recent policy initiative undertaken is the **European Clothing Action Plan (ECAP)**, which is an EU LIFE funded initiative aiming to embed a CE approach to reduce clothing waste across the EU. This initiative also has strong synergies with the aforementioned EU Garment Initiative. It is also closely tied to various CE related policies (e.g. the 2015 CE Action plan (Commission Proposal COM(2015)614 final)) and other action plans led by national governments and industry associations, which will be outlined in the coming Sections 3.3.3 and 4.2.

1.2 Problem definition

The recent efforts undertaken at the EU level reflect an increased awareness by policy makers trying to reconcile the wish for economic growth, decent human development and environmental protection to ensure a sustainable future for the garment industry (Commission Communication SWD(2017) 147 final). A coherent and effective governance for the garment industry could not only create a level playing field for companies, but also trigger infrastructure development, fuel investments, and cross boundary collaboration to achieve a transition towards a sustainable garment industry. This is becoming increasingly crucial for an industry whose durability will be dependent on systemic change.

Economic growth is increasingly confronted by the limits of planetary resources and underlines the need to move away from a linear model. The unsustainable dynamics deeply rooted in the current economic system are often a product of “*socio-economic structures that result in an unequal distribution of prosperity and opportunity amongst people and communities*.” (Circle Economy, 2018, p.14). Achieving a paradigm shift towards a CE therefore calls for engagement with a more extensive set of stakeholders’ needs and environmental concerns.

A recent study commissioned by the EC has highlighted various gaps related to environmental, social and governance issues in the garment industry that should be addressed through EU Action (AETS, 2016). A number of stakeholders argue that the EC is the most suited actor to lead the effort of increasing sustainability in the garment sector by setting up a framework that ensures continuous development and growth rather than ad hoc interventions or isolated initiatives (CoR, 2014; Parliament Resolution (2016/2140(INI))). However, at present, the EU has merely focussed on voluntary measures, an approach that has also been supported by the Council of the EU (hereafter: Council) (Council Conclusion 9381/17). Furthermore, EU reactions to big environmental challenges are often ambiguous and even contradictory (Snick, n.d). On one hand, the EU propagates environmental conservation and social inclusion, while at the same time further investing in regulations, trade agreements and innovation programs with the purpose of increasing competitiveness and reinvigorating the same economic model that causes sustainability issues. This marks a lock-in, which undermines ecological and social policies (Snick, 2016).

While the results of the AETS report only offer a specific snapshot of the issues and solutions in the garment sector, the authors have strongly highlighted the need for further in-depth analysis of issues, initiatives and stakeholder demands (2016). A systemic perspective can hereby help to understand which initiatives can potentially foster a transition towards a more sustainable garment industry model. While policy makers are showing signs of willingness to explore innovative ways that can increase the resilience of the garment industry, the solutions picked up at the EU level need to be better understood. Political support for the CE and SSCM has already been put on display, however, it still remains to be answered if these action plans are actually ambitious and effective or rather superficial responses to the current sustainability issues (Snick, n.d.). While both concepts have existed for some time now, they are still far from being the norm, even though, they are promising to offer a smart way to refuel competitiveness and growth while increasing the environmental sustainability of the garment industry (Commission Proposal COM(2011)0571 final; Commission Proposal COM(2014)263 final; Commission Communication SWD(2017)147 final; ECAP, 2016a).

A first look at the EC's DGs action agendas, as discussed in detail in Section 4.3, shows that they are built on literature streams that offer solutions to the growing issues of the garment industry. Mapping out what the distinct DGs are doing with regard to the garment industry helps to understand how the concepts of CE and SSCM are being translated into actions. While there is currently limited legislation in place that governs the garment industry at the EU level, it is important to get an understanding of how these two concepts are being discussed and which solutions they are promoting. In addition, such analysis of the EC's policy initiatives could enhance the understanding of which conceptual elements can drive the transition towards a truly more sustainable garment industry model. This will further add to the ongoing background analysis which builds on work already carried out by the EC and other organisations (AETS, 2016; Cobbing, & Vicaire, 2017; EMF, 2017a; GFA & BCG, 2017; Jastram & Schneider, 2015; Klepp, et al., 2015; WRAP, 2017) with respect to potential policy initiatives on where the EU can provide added value with regard to a transition towards a sustainable garment sector.

1.3 Research aim and objectives

The aim of this research will be to contribute to the development of coherent policy measures aiming to enhance sustainability of the garment sector by systematically analysing the solutions offered by the CE and SSCM concepts which have been promoted at the EU level. This will be accomplished by looking in depth at the Green Economy (GE) discourse which is currently influencing the European environmental policy development and the resulting policy landscape informed by it.

Based on this aim, the paper will develop on the following research objectives for the purpose of precision:

- (1) Explore the current GE policy discourse and outline the two solution frameworks of CE and SSCM which are being propagated at the EU level in order to advance a sustainable garment industry model.
- (2) Systematically analyse the resulting policy landscape undertaken by the EU with regard to the creation of a sustainable garment governance structure.
- (3) Investigate where the conceptual elements of CE and SSCM overlap, what differences exist, and if they mutually reinforce each other, and thereby, contribute to or hinder the development of an EU governance structure that effectively addresses sustainability issues in the garment industry.

1.4 Limitations and scope

The geographical scope will focus on the policy debate and initiatives taking place at the EU level. Global and national initiatives will not be looked at in depth for the purpose of manageability. The policy discourse that will be focused on mainly includes EU bodies such as the EC, the EP, the Committee of the Regions (CoR) and the Council, as well as various other stakeholders that are contributing to the discussion on the development of a sustainable garment governance at the EU level. As to the distinct initiatives chosen, these include **the EU Garment Initiative** (Commission Communication SWD(2017)147 final) as it represents the first flagship initiative specifically targeting the garment industry, and **the European Clothing Action Plan** (ECAP, 2016a) the first LIFE funded project targeting the garment industry. The detailed process of selection of these two initiatives can be found under Section 2.3.2.

This entails that the results of this study are geographically bound and cannot be generalizable on a global scale. However, it can still be relevant for other parts of the world that are dealing with similar governance issues regarding the garment sector, may that be in countries that are predominantly importing garments or for those heavily reliant on the export of garments. The policies and initiatives undertaken at the EU level have a global reach and can act as example or best practice for other nations that would like to put in place specific strategies to govern sustainability in the garment sector. Furthermore, especially with regard to the EU Garment Initiative, analysed in depth in Section 4.3.2, it is strongly reliant on partner countries and stakeholders that are often outside of the EU but contribute to the efforts of enhancing sustainable patterns of production and consumption in the garment sector.

Limitations with regard to the literature generated include that it was bound by the key terms chosen (Table 2-1). While these were able to direct the researcher towards appropriate literature, the existing associated key words are numerous. Quite often, different terminology may be used for equal or similar concepts or key terms, which means that appropriate knowledge might also be contained in documents from either related concepts or other fields of study. However, this was overcome during the initial research stages by including the associated terms that were most frequently found within the literature generated. Other limitations with regard to the interviews with experts during the data collection phase was the small sample size. While a larger sample would have enabled a more insightful analysis of the research topic, the interviews conducted nevertheless had a valuable contribution, especially, since the experts are currently involved in the EU policy-making process targeted at the garment industry.

Garments cover a vast range of products in different domains and purposes. This research will look at garments as the end product in form of textiles, which leaves out other finished products, such as footwear or accessories for example. Furthermore, the thesis will primarily focus on the environmental impacts of garments, while social aspects will be only addressed where relevant. Although the debate around ‘sustainable garments’ is still quite vast, and considering their relatively high impact on the environment during their lifecycle, a specific definition of ‘sustainable garments’ has been adopted in the framework of this thesis. Thus, based on the definition put forward by Retail Forum for Sustainability (2013), ‘sustainable garments’ has been adapted to be defined as the following:

‘garments which have been conceived and produced in a manner that minimises negative environmental impacts during their entire lifecycle, including during their supply chain, as well as the production and consumption phases that influence their care and disposal’.

Among various understanding of the term of sustainability, the author chose to adopt a specific lens of environmental sustainability throughout this thesis. This is due to the fact that it is a dimension of sustainability which is commonly addressed by the CE and SSCM concepts. While there are other dimensions of economic or social nature that are crucial elements to sustainability, these have only been briefly mentioned in Section 3.2.3. All dimensions of sustainability have a decisive role to play and need to be properly balanced in order to contribute to the goal of SD. Focusing on the environmental dimension however helps to evaluate how the different dimensions are being prioritised in the strategic orientation of a policy or initiative. Ideally, all three dimensions should be equally integrated, however, depending on the interests and agendas of the different stakeholders involved this is not very often the case. Thus, the focus on environmental sustainability will help to understand what systemic changes the two concepts are propagating in order to transition towards an environmental friendly garment industry. Based on this focus, Sections 3.4.2 and 3.4.3 further elaborate what solutions the CE and SSCM frameworks are offering in terms of environmental sustainability for the garment industry.

1.5 Audience

The research provides public authorities and policy makers with insights for a more effective promotion of coherent policy measures aiming to enhance sustainability of the garment sector. It also contributes to the current dialogue instigated by various actors on how to ensure a transition towards a more resource efficient and environmentally friendly garment sector in the EU (AETS, 2016; Cobbing, & Vicaire, 2017; EMF, 2017a; GFA & BCG, 2017; Jastram & Schneider, 2015; Klepp, et al., 2015; WRAP, 2017).

1.6 Ethical considerations

In alignment with Lund University's ethical standards for research, the integrity of the research is dependent on academic adequacy (2016). Thus, ethical standards, such as the acknowledgement of any used source has been ensured, in addition to no misconducting or fabrication of results. During the conduct of interviews with experts, these were made aware of the intention of being included in research work. Moreover, when approached first, potential interviewees were notified of the research purpose and received a guarantee that the information will be used for academic purpose. To ensure confidentiality, the names of interviewees have been anonymised.

1.7 Outline

The paper will be structured as follows.

Chapter 2, reviews the chosen methodology based on a deductive research approach. Furthermore, it informs about the qualitative research approach and the choices made for the literature review and data collection parts based on discourse analysis and interviews with experts. Reasons for employing these methods are also outlined, explaining how they are aligned with the research philosophy and the research aim.

Chapter 3 presents a thorough and updated overview of the current state of the European garment sector and outlines a theoretical framework based on the GE, CE and SSCM concepts. An analysis of the major sustainability issues related to the garment's production-consumption system will examine the underlying terminology and principles offered by the literature. This, in turn, will enable the examination of the different ways that solutions for a sustainable garment industry are being framed in the literature. It then goes on to highlight two of the solution frameworks put forward at the EU level in order to effectively address major

environmental issues related to the garment industry. These include the concepts of CE and SSCM.

Chapter 4 presents the findings and analysis part guided by the theoretical framework outlined in the Literature review. The chapter will first investigate the European environmental policy discourse and its development. It will then illustrate how the CE and SSCM appear and are being discussed in EC's policy documents. The policy landscape shaped by the EC's Directorate-Generals (DGs) with regard to the creation of sustainable garment initiatives will subsequently be examined, by focussing on two selected initiatives. These include the EU Garment Initiative and the ECAP. This will enable to highlight how the two concepts are being framed and translated into action plans. It will further allow for a more in-depth analysis of where their conceptual elements overlap, what differences exist, and if they mutually reinforce each other, and thereby, contribute to or hinder the development of an EU governance structure that effectively addresses sustainability issues in the garment industry.

Chapter 5 outlines the discussion part based on the findings. It further establishes the relationship between the theoretical framework, outlined in Chapter 3, and the specific policy initiatives undertaken at the EU level. This is a crucial step for the research as it will enable to outline recommendations for the development of coherent policy measures aiming to enhance sustainability of the garment sector based on the solutions offered by the CE and SSCM concepts.

Finally, Chapter 6 presents the main conclusions and recommendations of the research. It further highlights reflections on the research process as well as areas for future research.

2 Methodology

The following chapter describes the research design to point out its benefits for this particular research. Furthermore, it informs about the chosen strategy for the methodology and the choices made for the literature review and data collection parts. Reasons for employing these methods are also outlined, explaining how they are aligned with the research philosophy and the research aim.

2.1 Research design

The research was driven by a deductive research design building upon existing knowledge and theories associated to a sustainable governance and changes of production-consumption systems in the garment sector. Choosing a qualitative research approach, the research design included a combination of methods of data collection and analysis that build up on one another, as outlined in Figure 2-1. The incorporation of multiple research methods is known to enhance the quality of the research as it enhances reliability and minimizes potential inconsistencies (Frechtling, 2002). Furthermore, the use of multiple data collection strategies at different points during the research process allowed for more flexibility.

Another main benefit of combining various data collection methods is that it permitted not only to draw a more comprehensive picture, but also a more complex and balanced interpretation of the research problem (Bryman & Bell, 2011). This helped with cross-checking the findings during the data analysing process in order to fulfil the specific Research objectives outlined in Section 1.3.

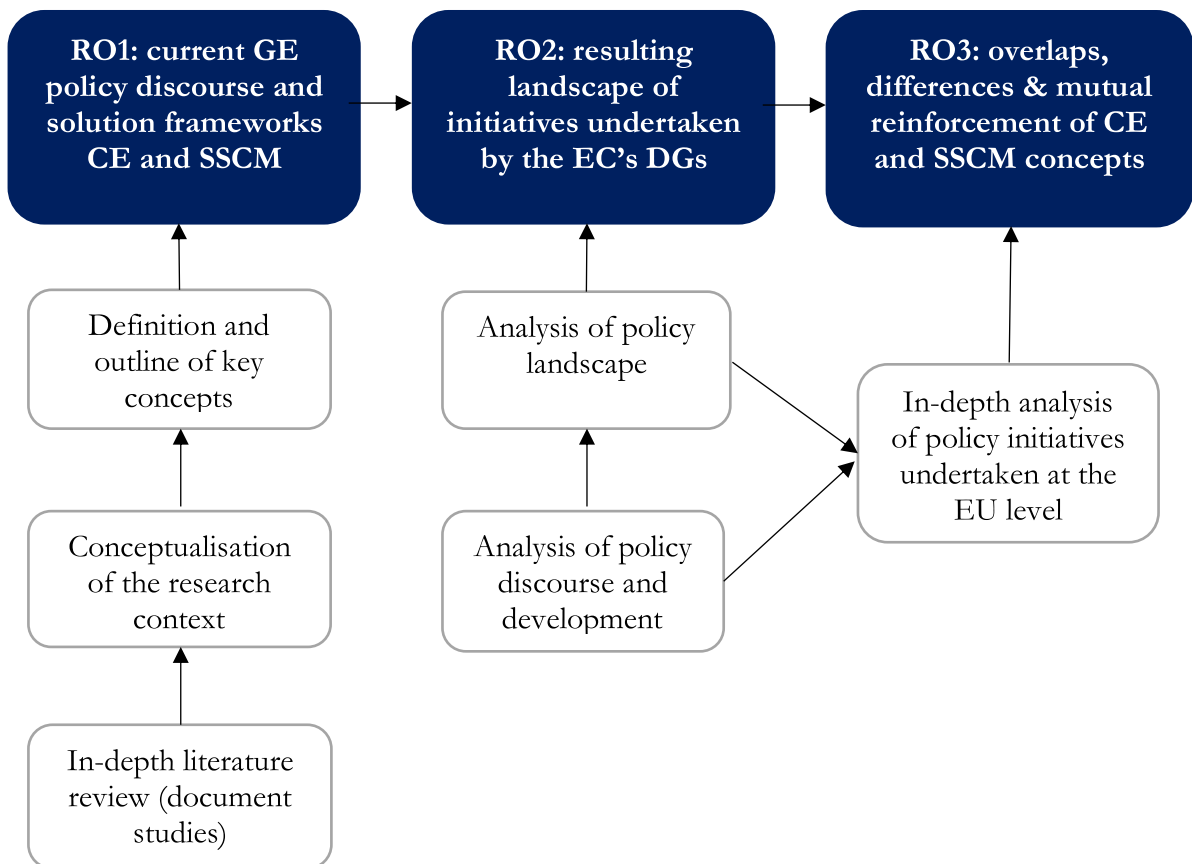


Figure 2-1 Major steps in research design

Source: Own elaboration

2.2 In-depth literature review

In order to get a full understanding of the issue, the first step of conceptualisation of the research context was important as it in turn informed the subsequent process of the collection and analysis of data. The start of the data collection entailed an in-depth literature review based on key terms and concepts as outlined in Table 2-1. The key term ‘sustainable garment’ has been used interchangeably with ‘sustainable clothing/fashion/apparel’ because most of the literature sources do not make a distinction among these.

Table 2-1 Key words used to generate appropriate literature

| Key term | Sustainable Garment | Sustainable Governance | Green Economy (GE) | Circular Economy (CE) | Sustainable Supply Chain Management (SSCM) |
|----------------------|--|--|--------------------------------|---|--|
| Associated key words | Sustainable clothing/fashion/apparel; garment lifecycle; environmental impact of garment; lifecycle assessment; lifecycle thinking | Sustainable policies for the garment industry; EU textile and garment governance; EU policies for sustainable garment; Sustainable consumption and production patterns; cleaner production | Green growth, Green innovation | Resource efficiency; Circular fashion; Circular business models; Circular economy policies, Resource efficiency policies; collaboration | Green Supply Chain Management; responsible/sustainable value chains; policies for SSCM; transparency; global supply chains |

Source: Own elaboration

The collection of relevant sources was done with the help of various databases accessible through Google Scholar as well as the universities’ entry point to the libraries’ resources, namely LubSearch and the Central European University library. This initial stage in the research process was entirely based on document studies. These were mostly found through in-depth online searches to identify numerous recent and relevant academic peer reviewed articles from recognised journals, as well as grey literature. The advantages offered by this type of document study are twofold. Firstly, they reflect the setting and language in which they are grounded in, and secondly, they are useful to determine interests, positions and political climate, necessary for the further research methodology used (Frechtling, 2002). A snowballing method helped with the identification of additional sources through references cited in the documents found in the literature search. Another important factor was to assure the state-of-the-art of the literature, which is why recent sources were chosen. However, literature and seminal pieces published in the late 2000s and earlier were able to contribute to the discourse of CE and SSCM in light of the GE.

Additionally, data sets were used during the literature review to highlight specific industry figures and sustainability issues. These were mainly taken from the official publications of EURATEX (the European Apparel and Textile Industry association, which accounts for 54.000 textile and 120.000 apparel companies), EUROSTAT (the EU’s official statistical portal) and the EC. Other sources included data sets made available by the UK’s Waste and Resources Action Programme (WRAP), the Global Fashion Agenda (GFA) (non-profit

initiative founded in 2016 which brings together leaders from the fashion world) and the global management consulting firm Boston Consulting Group (BCG).

The initial stage of the research design helped to conceptualise the overall research context. In turn, to fulfil RO(1) the GE theory as well as the two concepts of CE and SSCM were outlined. In the first step, the three concepts were clearly defined in order to narrow the focus toward the most relevant literature. This helped outline the conceptual elements that they are informed by (Table 3-1) and which are currently being used in order to steer the policy debate and development. As aforementioned, the literature review has formed the basis for analysis of the current EU garment industry model and related sustainability issues. In line with Fink (1998), the intention of the literature review is to offer a systematic, explicit and reproducible design for identifying, evaluating and interpreting the existing body of recorded documents. Firstly, it helped to summarise the existing body of knowledge by identifying patterns and issues. Secondly, it helped to identify the conceptual content of the chosen research topic. It has further enabled to give an updated view of the policy landscape at the EU level with regard to the two aforementioned concepts that help in the formulation of policy initiatives.

The various initiatives outlined during the literature review were chosen on the basis of frequency of appearance in the literature. While there is a large number of multi-stakeholder initiatives, out of which several that have been supported through numerous EU funding mechanisms, the literature review only mentions a few. The aim of Section 3.3.3 was not to provide a comprehensive picture of all existing initiatives in the EU, but rather a context within which the in-depth initiatives could sit. It therefore merely offers a snapshot of some of the initiatives, that even if short lived, have played an important role in activating the discussions and supporting the conceptual elements propagated by the CE and SSCM concepts.

For the execution of the RO(2) the discourse analysis was based on sources ranging from policy documents to various other published studies carried out by recognised organisations or found through the websites of identified stakeholders, such as Greenpeace and the Ellen MacArthur Foundation (EMF). This enabled to gain multiple view points from different stakeholders ensuring triangulation of the data. While this can be very powerful when sources agree, it can pose problems for the researcher if the various sources generate contrasting or even conflicting information. However, this was overcome by the acknowledgment of such disagreements within the context in which they arise (Frechtling, 2002). Priority was given to selected sources based on verifiable information. This included that the sources contained details of the methodology used, which could enable replication of the study if desired. The aim in the selection of sources was firstly to avoid potential bias which could arise from research paid by specific economic interests, which is why information was sourced from various EU bodies, international and industry sponsored organisations.

As an object of analysis, the EU has been chosen as it represents an important player in shaping the policies that could affect the global garment industry. In addition, it has started to address the topic by initiating a few projects and is slowly starting to advocate for changes in the conduct of this particular production-consumption system. Consequently, the RO(3) builds up on the data gathered for the precedent RO(1) and RO(2). In order to gain a full understanding of where the conceptual elements of CE and SSCM overlap and what differences exist, their conceptual elements were first outlined in the theoretical framework. The in-depth analysis of two recent European initiatives, namely the EU Garment Initiative and the European Clothing Action Plan, has further enabled an examination of the overlaps and potential reinforcement of the two concepts.

2.3 Discourse analysis

An important part of the qualitative research approach for this thesis entailed the use of a discourse analysis of the policy development. It is argued that this type of methodology is not limited to the discovery of underlying ideologies, but primarily to systematically link structures of discourse with structures of ideologies (Van Dijk, 1995). This means that the subject matter can be delimited as being concerned with “*formal/informal political contexts and political actors (...) operating in political environments to achieve political goals*” (Wilson, 2001, p. 398).

2.3.1 Collection of data

As not all aspects of discourse can be studied, a selection of texts was chosen for the purpose of manageability. For this thesis, the researcher has therefore more explicitly focused on the way that texts act as a resource that can be used by actors to bring about certain changes and outcomes (Hardy, Palmer & Phillips, 2000). This does not only increase plurality in the research base but also offers a way to analyse the underlying reasoning of a new phenomenon or practices, such as the policy initiatives undertaken to advance a ‘sustainable garment governance’ at the EU level. As underlined by Aydın-Düzgit (2014), texts can be drawn from a variety of sources, such as parliamentary debates at the European Parliament (EP), official declarations by Commissioners, Council decisions, political speeches by EU leaders or EC officials, and interviews with EC civil servants. These texts have a certain degree of formal authority. For example, parliamentary debates have a high form of formal authority due to the elected nature of the politicians and the existence of an electoral platform and constituency. Politicians are also in constant interaction with civil society, the media and pressure groups. In the case of speeches or communications published by the EC, these can often be characterised as of visionary nature, as they are often consensus oriented and rely heavily on argumentative strategies to convince the reader.

2.3.2 Analysis of data

In order to inform the RO(1) and RO(2), the so-called GE discourse adopted at the EU level was systematically analysed. The analysis began with the Commission Proposal COM (2010)2020 final since it forms the basis for the Europe 2020 strategy. The priorities set in this document have laid the groundwork for the GE discourse to arise. Furthermore, it has set the stage for various flagship initiatives to be developed that aim to reach the goal of moving towards a GE set out in the Commission Proposal. The various documents chosen, which have been listed in Annex I, count recent reports and statements, but also position papers published by EU institutions, EU business associations organisations, such as Euratex, as well as NGOs, such as the Circle or Greenpeace. These are important for the discourse analysis as they have influenced the environmental policy development and given their insight as to necessity of a regulatory framework at the EU level. The largest amount of policy documents used for the discourse analysis include various Commission Proposals, Council Conclusions, Directives, and Parliamentary reports were found through the EU-law database EURLex. The press release databases of the various EU institutions also offered a rich access to texts and opinions drafted to communicate on specific legislative developments.

A textual analysis was performed based on the conceptual elements outlined in Table 3-1. This means that the various documents were scanned for key words and macro-propositions. According to Van Dijk (1980) macro-propositions are the most important or relevant pieces of information in a text that are derived from local meanings of words by macro-rules, such as generalisation or construction. Such rules have omitted irrelevant details, connecting the essence at a higher level into abstract meanings or concepts. This was necessary in order to gain a better understanding of the choices made by the EC’s DGs with regard to their action

areas and the underlying ideas that fuel the undertaken initiatives. Thus, on a macro-textual level the main meanings of key policy documents were outlined (Commission Decision 1386/2013/EU; Commission Proposal COM(2010)2020 final; Commission Proposal COM(2011)0571 final; Commission Proposal COM(2012)710 final; Commission Proposal COM(2014)263 final; Commission Proposal COM(2014)0398 final; Commission Proposal COM(2015)614 final).

As suggested by Fairclough (2002), the choice of keywords on a micro-textual level was highlighted as these typically help to identify underlying discourses (Fairclough, 2002). The aim of this type of analysis was to investigate which conceptual elements have been picked up by the EU institutions to inform their environmental policy and transition discourse. The fundamental feature of discourse analysis has therefore been to analyse the systemic description of strategies used in texts, in addition to the determination of their political context. The text analysis was therefore combined with a policy analysis, which was used to explain the various policies and their development. This enabled an explanation of the process of environmental policy development towards the increased inclusion of GE, CE and SSCM conceptual elements, as well as the main policy instruments agreed upon by the various EU institutions.

As further discussed in Section 4.1, the concepts of CE and SSCM have gained attention due to the strong discourse that the EC is using to promote the move towards a GE. An examination of the current environmental policy discourse at the EU level therefore appeared useful in gaining a better understanding of how the CE and SSCM concepts have inspired initiatives to arise. To best fit the research purpose of RO(3), the results from the policy discourse were then used in order to analyse in more depth two recent initiatives undertaken by the EC to address the pressing environmental impacts of the garment sector.

The selection of initiatives for inclusion as case studies was a key step as it influences the rest of the analysis. They were chosen based on an initial web search which highlighted the EU Garment Initiative (Commission Communication SWD(2017)147 final) as the first flagship initiative undertaken at the EU level that specifically targets the garment industry. The other chosen initiative, the so-called European Clothing Action Plan (ECAP, 2016a), was chosen because it is the first LIFE funded project undertaken at the EU level that targets the garment industry. Thus, both initiatives are either being stirred or directly funded by the Directorate Generals (DGs) and represent crucial steps in the recent EC's action plan targeting sustainability issues of the garment sector.

2.4 Interviews of experts

The previously outlined systematic discourse analysis was able to offer insights into the current ideas and concepts that have shaped the European environmental policy development. It has also offered more clarity on the resulting landscape of initiatives undertaken by the EC's DGs.

2.4.1 Collection of data

The subsequent stage of the qualitative data collection strategy was the use of semi-structured interviews. These have helped to gain further insights by way of talking directly to a sample of experts and representatives of the field. Interviewees included policy experts from various EU institutions, such as the EC or the EP, but also various associations and consultancies involved in projects related to the chosen topic. These participants were chosen as their perspectives are deemed to influence the progress of the research project. The conferences and meetings listed in Annex II were able to offer a platform to conduct some ad-hoc conversations and

interviews with experts as they were more readily accessible. Especially the event organised by the Group of Progressive Alliance of Socialists and Democrats in the EP on *Trade for Sustainable Development. Fashion Focus: the fundamental right to a living wage*, but also the event *We care for your shirts... and our rights – Dignified work in Bangladesh.* co-organised by CARE International and The Greens and European Free Alliance (EFA). They offered an opportunity to engage in dialogue with representatives from the EC and Members of the EP (MEP), as well as NGOs. Another opportunity for interaction was the Conference organised by the political party of the Greens/EFA, named *European Ideas Lab*, which had a priority topic on the sustainability issues of the garment industry. This enabled the researcher to meet stakeholders active in the respective field and to gain more insights by talking to them directly.

These interactions aimed at a sample of experts in the field of sustainable garment governance which were able to contribute to the research by sharing their opinion and experience. This was foremost done as a way to collect authentic data and insights from a set of people working in policy making at the EU level and related stakeholders that influence the policy development process. This type of non-probability sampling strategy chosen for the primary data collection was able to satisfy the need for information-rich insights which was more important than the sample size. Therefore, the purposive sample was selected as it is very useful for situations where proportionality is not the primary concern (Trochim, Donnelly & James, 2008). The interviews lasted between 15 to 30 minutes and were all conducted face to face. In order to allow for interviews to unfold more naturally, the researcher chose not to record the interviews but rather to make written notes. As per request of a majority of interviewees, the author has decided to keep all interviewees anonymous. Thus, they will be referred to numerically (Interviewee #1-8) throughout their use in Chapter 4. An overview of the interviews undertaken can be found in Table 2-2.

Table 2-2 Interviews conducted

| # | Organization and role of interviewee | Location and date of interview |
|---|--|--------------------------------|
| 1 | NGO Fashion Revolution, Campaigner | Brussels, 02.03.2018 |
| 2 | European Greens/EFA, Assistant to MEP | Brussels, 02.03.2018 |
| 3 | European Greens, MEP | Brussels, 02.03.2018 |
| 4 | EC, Policy Officer | Brussels, 26.02.2018 |
| 5 | EC, Policy Officer | Brussels, 26.02.2018 |
| 6 | NGO the Circle, Member | Brussels, 20.02.2018 |
| 7 | European Greens/EFA, MEP | Brussels, 20.02.2018 |
| 8 | Business association for SMEs in fashion business, Industry representative | Brussels, 20.02.2018 |

Source: Own elaboration

While this type of sampling can also introduce biases, the researcher was able to overcome this by the selection of interviewees from a range of distinct organisations with different roles and interests in the industry. Other quality issues considered, particularly the reliability and validity of the data was ensured through the use of records in written form. The findings were then tied to the existing theory in order to demonstrate their relationship and accentuate their significance (Saunders, Lewis, & Thornhill, 2009).

2.4.2 Analysis of data

Content analysis was used as a method to analyse the results from the expert interviews. In total 8 experts were interviewed consisting of 2 Members of EP, 2 officials of EC, 1 industry representative and 2 NGO and civil society organisations. The notes taken during these interviews were used as the basis for analysis.

However, limitations need to be acknowledged with regard to the access to interviewees. A larger sample would have enabled an even more insightful analysis of the research topic. Nevertheless, the small sample has been a valuable contribution as the experts interviewed are currently involved in the EU policy-making process targeted at the garment industry. These limitations were overcome by means of including further insight gained through the great amount of research conducted by organisations, such as think tanks and research organisations, including the European Centre for Development policy management, GFA&BCG and Mistra Future Fashion. These organisations do not only have much more access to experts in the field due to their high professional recognition, but also a higher amount of resources available to them, whether they may be of human or financial nature. The interviews conducted and used in their various studies and reports were therefore highly useful in this research context.

Another limitation was that the events and conferences organised had a stronger focus on responsible value chains, and therefore, were highly centred around the social dimension of sustainability issues of the garment industry. While most interviewees had some knowledge on environmental issues, this did however not correspond to their exact area of expertise. This was one of the reasons that informed the research scope to adopt an environmental sustainability lens, in order to further investigate why social issues are at the forefront of the debate around making the garment industry more sustainable.

2.5 Summary of methodology

The chosen research design was based on a deductive approach in order to deliver data and subsequently results allowing the research objectives to be met and in turn the aim of the thesis to be achieved. Table 2-3 offers a summary of the various data collection and analysis methods used, and further points out the various outcomes for each stage of the research design.

Table 2-3 Data collection, analysis and outcome for each stage of research design

| Research stage | Data collection | Data analysis | Outcome |
|---------------------------------------|--|--|--|
| Contextualisation of research context | Literature review | Systematic analysis of documents | Research context and outline of theoretical framework |
| Research objective (1) | Policy documents | Macro- and micro-textual analysis | European environmental policy discourse influenced by GE theory |
| Research objective (2) | Policy documents | Macro- and micro-textual analysis | European policy landscape related to the garment sector |
| Research objective (3) | Policy documents and expert interviews | Cross-cutting analysis of initiatives: textual analysis and content analysis of interview findings | Overlaps, differences and mutual reinforcement of CE and SSCM concepts |

Source: Own elaboration

3 Literature review

The purpose of the literature review is to outline a theoretical framework that will guide the research and set it into the broader context of sustainability studies. At first, the chapter will inform on the current state of the European garment sector and its weight for the economy. An analysis of the major sustainability issues related to the garment’s production-consumption system will examine the underlying terminology and principles offered by the literature. This, in turn, will enable the examination of the different ways that solutions for a sustainable garment industry are being framed in the literature. It then goes on to highlight two of the solution frameworks put forward at the EU level in order to effectively address major environmental issues related to the garment industry. These include the concepts of Circular Economy (CE) and the Sustainable Supply Chain Management (SSCM). To allow the reader to understand the underlying discourse, their various conceptual elements will be outlined in Table 3-1. This is crucial as it will enable the examination of how the two concepts are being taken up by the EU in the following Findings and Analysis chapter. Finally, the research context will be outlined based on the major gaps identified throughout the literature review.

3.1 The current state of the European garment sector

The textile industry is one of the world’s oldest sectors of consumer goods manufacturing. It covers the entire production chain of converting natural and chemical fibres into end-user goods, such as garments (Retail Forum for Sustainability, 2013). Still today, the garment sector plays an important role in economy, as it can be counted among the largest European industrial branches. Not only does the EU represent the worlds’ largest market for textile and clothing but also the second largest exporter after China (Euratex, 2016a).

The European clothing and textile sector alone is employing some 1.7 million people and generated €171 billions in turnover in 2016 (Euractiv, 2016). The garment sector in the EU is mainly based around Small and Medium-sized Enterprises (SMEs). These often count less than 50 employees however represent 90% of the workforce and 60% of the value added (EC, 2018b). In 2016, the majority of the 177684 companies were in the clothing business, while less than 32% were specialised in textile or man-made fibres as illustrated by Figure 3-1 (Euratex, 2016b).

Number of companies within EU-28 Textile & Clothing industry in 2016

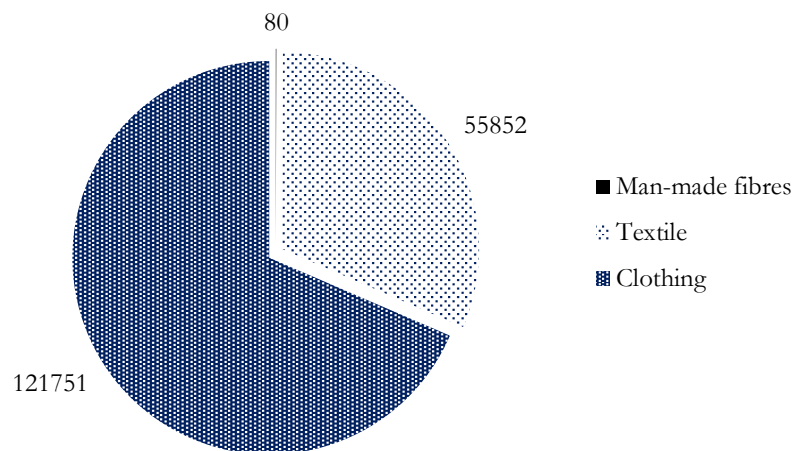


Figure 3-1 Number of companies within the EU-28 Textile & Clothing industry

Source: Own elaboration based on Euratex data (2016b)

3.1.1 The evolution of structural changes

The structural changes that have characterized this industry in the last decades have dramatically changed the volumes of industrial production in the EU. Driven partly by the liberalisation of global tariffs, an important part of the clothing production for European consumption was relocated to nations with cheap labour costs (Reichel, et al., 2014). For these countries the production of fabrics and clothing generally provides an important amount of national income and jobs. For example, in Pakistan, the garment industry is the largest manufacturing sector providing 15 million jobs and contributing 9.5% of GDP (EC, 2016e). This has resulted in an increase in global supply chains coupled with a sharp decline in the relative price of clothing, which in turn has fuelled consumer purchasing power. The current modus operandi of the garment industry is based on fast cycles of fashion trends that aim to progressively produce new consumer needs and products. The business models linked to these structural changes are based on high volumes of sale and planned obsolescence, while the product life cycle is shortened to enable a fast substitution and enable a quick profit (Niinimäki & Hassi, 2011). The results of this production-consumption system are low quality, short-term use, frequent garment replacement and increased textile waste.

According to the 2014 Environmental indicator report by the European Environmental Agency's (EEA), clothing represented the 8th most important expenditure for households in the EU, yet also the 4th most significant consumption category in terms of environmental impacts after housing, mobility and food (Reichel, et al., 2014). The report further outlined that much higher quantities of clothing are imported into the EU than exported, while the majority of exports of garments are part of intra-EU trade redistributions during different stages of the supply chain. In turn, this growing consumption and production has led to an increasing demand for resources but also environmental impacts across the lifecycle stages of garments (Reichel, et al., 2014).

In 2016, the EU-28 imported €81 billion worth of clothing from Extra-EU trade, with the main origin of imports coming from China followed by Bangladesh. In comparison, EU-28 exported clothing worth € 22,9 billion to countries outside of the EU. The Extra-EU's trade deficit with regard to clothing has further increased in the recent years reflecting the EU's heavy reliance on flows of resources and goods from other regions for its production and consumption activities (Reichel, et al., 2014), as can be seen in Figure 3-2.

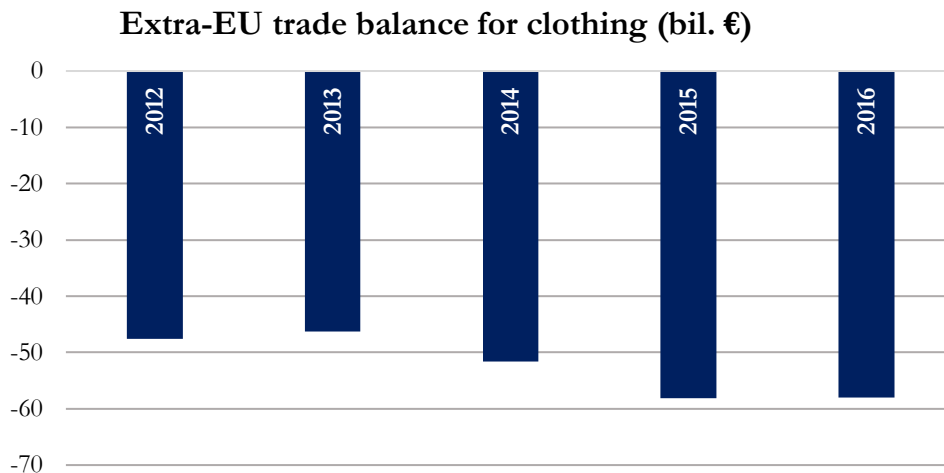


Figure 3-2 Extra-EU trade balance for clothing in billions of Euros

Source: Own illustration based on Euratex data (2016b)

Other Eurostat figures (EC, 2018a) indicate that the garment sector is further growing. Between 2013-2017 there was an increase of 30% in the value of total imports of clothing and footwear to the EU Member states. In 2017, Germany represented the largest importer with over 20% of total imports, followed by France with 13% and the United Kingdom with 12%. Exported clothes and footwear from EU Member states have also increased in value by 29% between 2013-2017.

The radical changes that the European garment sector has been facing over the recent decades are mainly due to technological innovation, the evolution of production costs, the emergence of international competitors and the elimination of import quotas after 2004. These have all contributed to its progressive move towards higher value-added products in order to preserve its competitiveness (EC, 2018b). However, the fast fashion phenomenon and a high number of imported products have curbed the need for the EU to engage in dialogues with non-EU countries on specific regulatory issues that focus on sustainability of the garment industry (EC, 2018b).

3.2 Sustainability issues related to the garment industry

The garment sector represents a production-consumption system which ranks among the most essential consumer goods industries but also the most polluting and socially challenged in the world (Franco, 2017). Its current emphasis lies on low prices for the final products, an increased efficiency in the production of garments, and the globalisation of its supply chains. While the EU heavily relies on a large share of imports, the global supply and production networks are exceptionally fragmented and diverse, made up of multinationals and a very large number of SMEs (Jastram & Schneider, 2015).

The harm that arises throughout the production is largely externalised from the price of end products, resulting in the ignorance of social and environmental costs when purchasing decisions are being made by costumers (Remy, Speelman & Swartz, 2016). To the contrary, falling prices of clothing and the fast fashion business model have been encouraging people to buy clothes at an ever-increasing rate. This has not only led to the creation of huge amounts of clothing waste throughout the supply chain and at the end-of-life but has also important impacts on the amount of resources being used. The spending on clothes is high and sales in non-specialised stores, such as supermarkets or e-commerce businesses, is further growing, thereby adding to its already considerable share of pressures on the environment (WRAP, 2017).

3.2.1 Environmental impacts of the garment industry

Garments are heavily intertwined with environmental, social and governance issues. While past efforts of producers and retailers have primarily concentrated on social aspects of the industry, for example by establishing fairer working conditions for workers and social standards, there is an increasingly growing concern for environmental issues related to the garment industry (Retail Forum for Sustainability, 2013).

In essence, environmental impacts are caused by any changes in environmental conditions due to human activities (Miedzinski, et al., 2013). For example, extensive water use during the production process of a garment leads to a number of environmental impacts, such as water scarcity, which occurs when the abstraction of fresh water exceeds the rate of renewal in the respective water body. This impact has a feedback to the economy and society in the form of negative effects such as water shortages or droughts. Environmental impacts related to a garment's lifecycle can vary significantly depending on the type of fibre used for its production.

For example, cotton production has strong impacts resulting from the high use of pesticides, land and water. Choosing organically grown cotton instead can reduce some of these impacts (Watson & Fisher-Bogason, 2017). The most significant contributors to the industry's pressure on the planet generally include (Beton, et al., 2011; JRC, 2014; Resta, et al., 2016; Retail Forum for Sustainability, 2013; UNEP, n.d.):

1. **Energy consumption and related GHG emission release** in the production and cultivation of man-made (e.g. polyester or nylon) and natural fibres (e.g. cotton), in yarn manufacturing, finishing processes, and the use phase (e.g. washing and drying);
2. **Water and chemicals consumption** associated with fibre growth (e.g. from fertiliser, pesticide, herbicide use), wet pre-treatment, dyeing and finishing activities, and laundry;
3. **Solid waste** arising from manufacturing and, mostly, from the end of life disposal;
4. **Direct GHG emission release**, particularly related to transportation processes within globally dispersed supply chains;
5. **Resource depletion** from the processing of fossil fuels into synthetic fibres, **land use changes** due to the cultivation of natural fibres, or **nutrient releases** leading to eutrophication from washing and dyeing during the production stage.

3.2.2 Lifecycle Assessment

As the environmental performance of products and processes has become a key issue, industries and businesses are increasingly interested in assessing how their activities impact the environment (Scientific Applications International Corporation, 2006). The basic idea of Lifecycle Assessment (LCA) is offering a methodology that helps to assess and identify all environmental impacts arising from the different phases that constitute the lifespan of a product or service (Klöpffer, 1997). Research conducted by the EU's Joint Research Centre (JRC) has shown that clothing alone is responsible for about 2-10% of the EU's lifecycle environmental impacts (JRC, 2014).

The term 'lifecycle' refers to the major stages in the course of a product's lifespan, which includes the extraction of raw material, material processing, product manufacture, distribution, use, maintenance, and disposal (Roos, et al., 2015; Scientific Applications International Corporation, 2006). This has been extended by the cradle-to-cradle approach advanced by McDonough & Braungart (2002), which also represents one of the building blocks for the CE concept. Their approach takes inspiration from nature in which all materials can provide nutrition for new processes, thereby maximising their material value and safeguarding the environment (Boer, et al., 2011). It takes into account the entire lifecycle of a product and looks for opportunities to optimise material health, recyclability, renewable energy use, water efficiency and quality, as well as social responsibility. It is argued that this methodology offers an approach to the garment manufacturing industry to assess its environmental impacts and find potential areas which can be improved. The LCA tool can therefore be used in order to help a company understand which elements of a product or process can be improved in order to reduce its environmental burden (Waite, 2009). That said, the way a company works on the identified environmental impacts of its products or processes can translate into giving it a competitive advantage depending on the strategic choices LCA contributes to.

LCA is based on a so-called Lifecycle Thinking (LCT), as shown in Figure 3-3. The main goal of LCT is to influence the thinking about the production and consumption of a product. This can help to contribute to the minimisation of environmental impacts of a product, including its resource use, through its lifecycle, as well as to improve its overall socio-economic performance. It can further assist in the progress of linking economic, social and

environmental dimensions within an organisation and its whole value chain (Life Cycle Initiative, 2017).

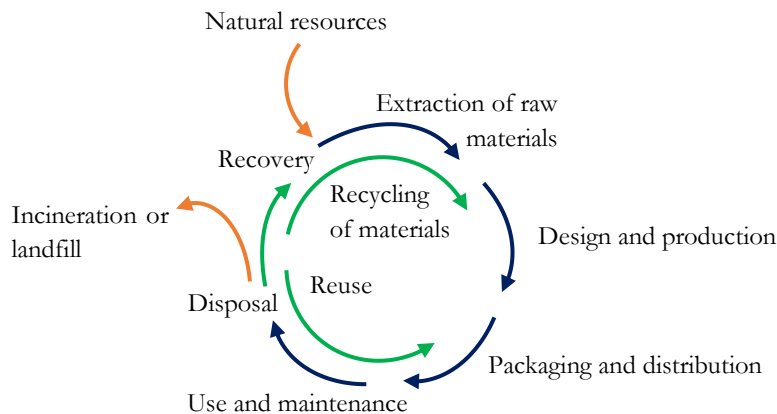


Figure 3-3 Lifecycle thinking

Source: Own illustration, adapted from the Life Cycle Initiative (2017)

An increasing number of companies are looking to explore ways that go beyond the sole compliance with environmental regulations (Resta, et al., 2016). This is where LCT and LCA can assist in the identification and consideration of the potential for preventing pollution and increasing resource efficiency. Overall, they are perceived as tools that can help to improve the product's performance by reducing the overall environmental pressure arising from each lifecycle stage.

An example of how LCA can help to clarify what sustainable fashion means is the study undertaken by Mistra Future Fashion with regard to the Swedish garment industry (Roos, et al., 2015). The selected items included a t-shirt, a pair of jeans, a dress, a jacket and a hospital uniform. Their environmental impact was investigated to gain a more nuanced understanding of the contributions attributed to their different lifecycle stages. Two of the chosen indicators to determine the environmental impact were 'water use' and 'contribution to climate change' also called 'carbon footprint' (Mistra Future Fashion, n.d.). The results highlighted that the fibre production stage dominates the whole lifecycle with regard to water use. The figures were weighted according to the water scarcity level in the producing country, whereas in Sweden the water consumption during the use phase is less significant due to the abundance of rainfall. The carbon footprint revealed to be more evenly spread out over the different lifecycle stages. An important role is to be ascribed to the transport of the garment from the store to the user's home, while the largest contribution to the carbon footprint is to be found in the production stage. While these results have granted a better understanding of the relative importance of different garments it has also highlighted the potential for intervention areas for impact reduction. A further analysis of the pre-user environmental burden has suggested that increasing the practical lifespan of garments would be beneficial in reducing the overall carbon footprint and water use by 65% and 66% respectively. This illustrates the need for manufacturers to move towards more durable products and consumers to buy fewer items in total (Roos, et al., 2015).

The JRC's report has also demonstrated in its key conclusions that the lifecycle environmental impacts of the garment sector are mainly influenced by the production the use phases (2014). For example, within the production process of natural fibres the use of agrochemicals contributes extensively to eco-toxicity, eutrophication and land use changes. The production

of synthetic fibres on the other hand raises concerns due to the related consumption of fossil fuels. Therefore, reuse and recycling of old textiles have been put forward as having a positive impact on the impacts stemming from the production phase. In the use phase, detergents are responsible for a high share of toxicological impacts, while the energy use during the washing and drying phases contribute to climate change and ozone depletion.

This has been further substantiated by the Pulse of the fashion industry report (GFA & BCG, 2017) which highlights that if production and consumption patterns follow their current trajectories, representing a 63% increase between 2015-2030, the industry's negative environmental footprint will continue to amplify. The report has further highlighted that there is a so-called 'value opportunity' of €160 billion annually to be gained, as can be seen in the details presented by Figure 3-4. One of such value opportunities arises from the potential enhancement of the livelihood of workers and communities that could in turn influence the overall company reputation. Other values at stake that have been outlined can rather be perceived as hidden costs arising from the current practices of the industry unless appropriate measures are taken. One of them counts a more efficient management of scarce resources or the elimination of waste where possible (GFA & BCG, 2017). The value at stake can thereby be transformed into an opportunity for companies in the garment sector to ensure a longer continuity of their operations and better supply chain relations in the future. Overall, the report not only sends a strong message towards the industry players but also stresses the role of policy makers to become actively engaged in the formulation of a sustainable garment governance.

Value opportunity of sustainable fashion to the world economy by impact category and value at stake (€ billion)

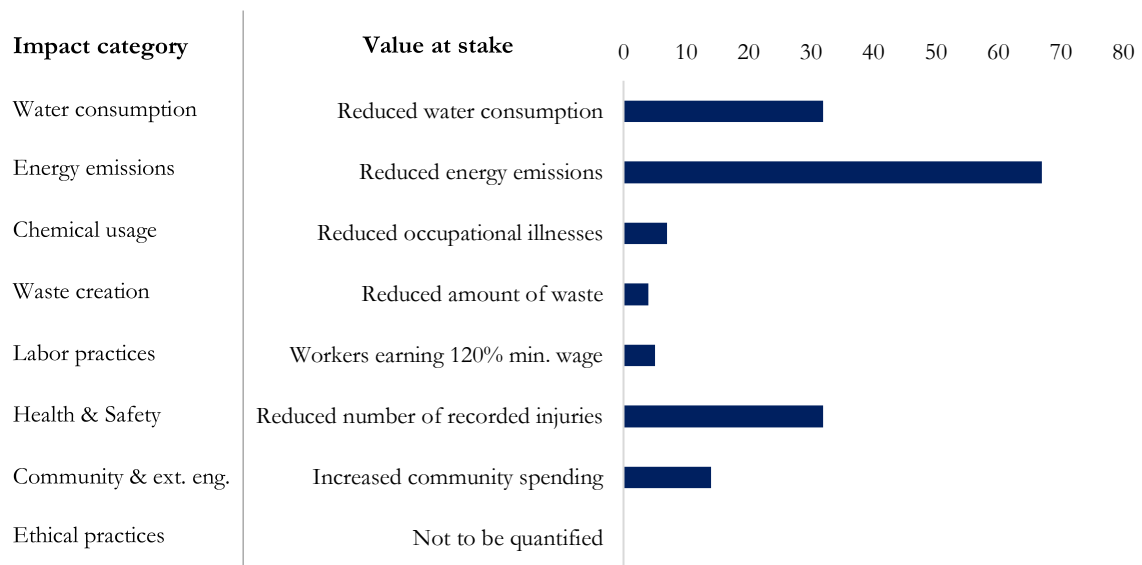


Figure 3-4 Value opportunity of sustainable fashion to the world economy by impact category
 Source: Own illustration adapted from The Pulse of the fashion industry report (GFA & BCG, 2017)

However, Greenpeace criticises that solutions propagated by the industry and made available to the mainstream through publications such as the Pulse of fashion industry report (GFA & BCG, 2017) highlight a technological fix as the best option to move towards a sustainable garment industry. Public authorities and regulations are hereby seen as a risk to profitability or as a financial source for R&D and investments. While numerous industry-wide initiatives aimed at mitigating the impact of the current linear industry model have started to flourish, it is argued that these do not go as far as adopting a systemic approach that challenges the root

causes of the system's wasteful nature. Elements of this production-consumption system count for example the low clothing utilization or the low recycling rates at the end of life stage of garments, which are part of the profitability model that the garment sector is built on (EMF, 2017a).

3.2.3 The concept of sustainability

Conceptually, the notion of 'sustainability' is based on the triple bottom line which includes an economic, social, environmental and occasionally cultural dimension (Lang & Murphy, 2014; Vadicherla & Saravanan, 2015).

Derived from the term 'sustainable development' (SD) the most cited definition of sustainability has been offered by one of the most seminal pieces in the evolution of this theory, namely the Brundtland report (WCED, 1987). It states that sustainability is to meet "*the needs of the present without compromising the ability of future generations to meet their own needs*". The combination of the term 'development' with the adjective 'sustainable' has fuelled a global debate and quickly entered the main environmental discourses (Lang & Murphy, 2014). It has further pinpointed the impossibility of continuing with the current paradigm of development and growth (Vezzoli & Manzini, 2008). It has taken on a fixed position in the official language and documents of all international and European organisations as well as amongst many institutional and economic stakeholders. Responsibility was divided amongst all actors with businesses and industries playing a vital role (Lang & Murphy, 2014). However, Vezzoli & Manzini (2008) argue that it has lost its original power due to the term's overuse in a context that has little to do with its actual meaning. This in turn increases the risk of it becoming a semantically empty expression that hinders a true understanding or correct use of the term. In order for SD to become a true action plan, which influences almost every aspect of contemporary society, it needs to involve all stakeholders to play a part towards challenging and transforming the current system. Nevertheless, the term has built a precondition for environmental sustainability that should become the building block for sustainable production-consumption systems of the contemporary industrial age. Vezzoli & Manzini (2008, p. 6) further highlight that:

"The term environmental sustainability refers to systemic conditions where neither on a planetary nor on a regional level do human activities disturb the natural cycles more than planetary resilience allows, and at the same time do not impoverish the natural capital that has to be shared with future generations. These two limitations, based on a prevalently physical character, will be aligned with a third limitation, based on ethics: the principle of equity states that in a sustainable framework, every person, including those from future generations, has the right to the same environmental space, that is, the right to access the same amount of natural resources."

Thus, the environmental dimension stands for the ecological responsibility that garment industry stakeholders have. This can include measures that increase the sustainability level of the garments produced such as energy and resource conservation, a higher use of renewables, the increase of recycling, the minimisation of packaging and reduction of carbon footprints throughout the entire value chain. A recent report which was commissioned by the EC has strongly emphasised that environmental issues are still being less addressed in the garment sector compared to the textile and wet processing industry (AETS, 2016). Consequently, the report urges for actions to be undertaken at the EU level to guide the industry towards a more sustainable production-consumption system.

3.3 Characterisations of sustainable garment solutions

3.3.1 Sustainable garments

While the term '**sustainable garments/fashion**' is widely used at present it is difficult to identify a shared definition or industry standard. The interpretation of the term largely depends on the context and is often difficult to grasp (Mistra Future Fashion, 2017). Some go as far as to call it an oxymoron in light of growing consumerism and the fast fashion paradigm. As the analysis conducted by Henninger, Alevizou, & Oates (2016) illustrates, understanding the term 'sustainable fashion' is however vital as it *"provides a common understanding upon which various groups (organisations, stakeholders) can act; prevents greenwashing; and allows organisations to align their strategies and objectives with key criteria"* (p.411).

In the literature, 'sustainable garments' are being characterised interchangeably as being organic, eco, green, fair trade, or ethical (Carey & Cervellon, 2014; Lundblad & Davies, 2016). The term has been associated with clothing production that is environmentally and socio-economically sustainable. It has also been associated with **sustainable clothing consumption** that focusses on behavioural patterns. It has further been associated with the **slow fashion** movement, which is based on the values propagated by the sustainability concept (Fletcher, 2010; Henninger, Alevizou, & Oates, 2016). This movement questions the current paradigm dictating the garment industry by trying to break down existing boundaries between organisations and their stakeholders (Clark, 2008). Furthermore, it challenges the production process to be slowed down in order to fit a more manageable timeframe. This idea has been further expanded by the extreme opposite concept of so called '**short-life fashion**' (Earley, 2017). As a direct response to the prevailing disposable fast fashion paradigm, it offers a concept which is based on the idea of designing for multiple short cycles that can be easily recollected and transformed into new materials (Earley & Goldsworthy, 2015). It would be an option to offer inexpensive, bio-degradable, low-energy produced garments and a reduced environmental impact associated with material production and laundry.

Various other academic works have attempted to associate sustainable garments with a number of perceived wrongs of the fashion industry that need to be corrected (Lundblad & Davies, 2016). It can therefore encompass a variety of terms which include the **triple bottom line** (Strähle & Müller, 2017); **sustainable business models** (Joergens, 2006; Niinimäki & Hassi, 2011); **cleaner production and eco-efficiency** (Ozturk, et al., 2016); **the use of organic, recycled or reclaimed fibres and materials** (Vadicherla, & Saravanan, 2015); **certifications and traceability** (Henninger, 2015); or **durability and longevity** (Fletcher, 2010). Other definitions deem sustainable garments as synonymous with the **reduction of chemical consumption, associated pollutant load of wastewater and GHG emissions** (Alkaya & Demirer, 2014; Zamani, Peters & Rydberg, 2014).

Different organisations have added their understanding and standpoint of what a definition of sustainable garments should entail. A report published by McKinsey has associated it with **sustainable design** and **sustainable value chains** (Remy, Speelman & Swartz, 2016). The Ellen MacArthur Foundation (EMF, 2017a) instead promotes it as a **transition towards circularity** and argues that this represents the truly sustainable option. Focussing solely on sustainable value chains does not actually challenge the current linear system. Mistra Future Fashion (2017) defines sustainable garments as equivalent to the creation of additional value throughout the whole value chain. Greenpeace (2017) argues that there needs to be a radical systemic change based on slowing the flow of materials and reducing overconsumption with the help of the implementation of a true CE model which would design out waste altogether.

The organisation further insists that in order to do so, the garment industry will need to be based on more intrinsic values, encourage responsible practices and a long-term vision.

Another major theme in the literature examines the social or ethical aspects which is often associated to the term. Elements discussed include **fair working conditions, labour rights, or safety measures** (Henninger, Alevizou, & Oates, 2016). These aspects have gained in awareness specifically after the Rana Plaza incident, which shed some light on the dubious practices and conditions that garment workers were exposed to. The White Paper published by Fashion Revolution a UK based charity founded in 2017 has set an agenda to bring these issues to the public's attention throughout its various campaigns (Ditty, 2015). It deems fashion to be only sustainable if it does not come at the expense of human rights and the environment. This has also been recommended by The Circle (2017), an NGO which fights for the empowerment of women in the textile sector and collaborates with a number of organisations on these topics, such as Oxfam of the UN. It considers sustainable garments not to be in line with the practices of the current system which treats labour just like any other commodity.

As described above, sustainable solutions for the garment industry can be characterised in numerous ways, and some common themes and ideas have already started to surface. The current European policy dialogue has been influenced by a number of stakeholders that have pushed the EC to start addressing the sustainability issues of the garment industry. Concerted efforts have singled out specific solution frameworks based on the concepts of CE and SSCM to effectively address the various sustainability issues (Franco, 2017; Strähle & Müller, 2017), placing environmental sustainability as the focus. Thus, among various understanding of sustainable garments, the author chose to adopt a lens of environmental sustainability throughout this thesis due to the fact that it is commonly addressed by the CE and SSCM concepts. The focus facilitates the analysis what systemic changes the two concepts are propagating in order to transition towards a sustainable garment industry. Based on this focus, Section 3.4.2 and 3.4.3 further elaborate what solutions the CE and SSCM frameworks are offering in terms of environmental sustainability for the garment industry.

3.3.2 Sustainable garment governance

In the literature sustainable garment governance is defined as the “*sum of actors, initiatives, instruments, standards and strategies pursuing the objective to support, to incentivize, or to force social and ecologically sustainable value creation in the textile industry*” (Jastram & Schneider, 2015, p.205). It has also been identified as a non-formal arrangement for members that have accepted each other as stakeholders and have an enhanced awareness of interdependence (Lang & Murphy, 2014). These members can be of a public or private, profit or non-profit, national or trans-national, expert or amateur, producer or consumer, small or large nature. They are thereby able to create arrangements that help to set up rules, standards or monitoring systems for sustainable industry conduct.

The term of ‘**governance**’ draws from political notions of governance which involves an interplay of polity, politics, and policy (Mückenberger, 2008). However, in the age of accelerated globalisation, cross border governmental interventions are still very limited. Additionally, the legal systems in place in producing countries are often limited due to the lack of effective governmental enforcement mechanism (Labowitz & Baumann-Pauly, 2014). Proponents therefore perceive the involvement of business in sustainable development as a positive participation in policy making and governance (GFA & BCG, 2017). On the other hand, critics argue that this type of self-regulation can also be perceived as a way to avoid government interference (Lang & Murphy, 2014).

The industry and consumers have become increasingly aware of the negative environmental and social impacts of the current garment system. This has led various brands and retailers to start addressing the sustainability challenges of their products and supply chains either on an individual or collaborative scale (EMF, 2017a). Sustainability represents a challenge to business processes and activities. While it is extremely difficult to determine which brands to trust an increasing number of civil society organisations and businesses are trying to improve the situation (Jastram & Schneider, 2015). This had led to the creation of various initiatives and organisations which promote sustainability standards, labels, audits, certificates or management strategies.

3.3.3 Current landscape of sustainable garment initiatives

The literature has highlighted a number of initiatives that have already existed for numerous years as well as some that have only started to pick up on the increased awareness around specific issues related to the textile and garment industry. These public and private initiatives undertaken are multiple and often count a number of stakeholders that have agreed to tackle a specific agenda together (Jastram & Schneider, 2015). The creation of initiatives in order to achieve a systemic transition towards a more sustainable garment governance is one approach that has become a trend over the past decades and has increasingly enabled stakeholders to push for change on a larger scale (AETS, 2016).

While some initiatives already started addressing supply chain issues in the garment industry in the 1980's, they were mostly focused on ethical and social dimensions. One of the most known initiatives set up in 1989 is the **European Clean Clothes Campaign**. Since then it has worked to ensure that fundamental rights of workers are respected in the garment industry (CCC, 2012a). It has thereby set up a network in garment producing countries and in consumer markets which includes various trade union and NGOs to cover a broad range of perspectives and interests. It sees its role in the education of consumers, the lobbying of companies and governments and offer direct solidarity to workers in fighting for their rights and better working conditions (CCC, 2012b).

The 1990s and 2000s were characterised by the rise of the Corporate Social Responsibility concept, which was picked up by numerous civil society organisations and companies. These developed a number of voluntary standards and compliance mechanisms for garment supply chains, however, often without government participation (AETS, 2016). Created in 1999, the **Fair Wear Foundation (FWF)** is one of the European multi-stakeholder initiatives that works to improve workplace conditions in the garment industry (FWF, n.d.). Governed by labour unions, NGOs and business associations, it verifies that its members implement the FWF Code of Labour Practices in their supply chains. A more recent initiative, which has revived concerns for social dimensions in the garment industry is to be found in the **Global Social Compliance Programme** (UNGC, 2015) which has been put in place by the International Labour Organisation (ILO) in 2006. This business-driven programme helps to check the compliance of fair working conditions and has influenced in turn a number of social standard schemes of retailers and producers (Retail Forum for Sustainability, 2013).

On the other hand, the environmental dimension has mainly been addressed by initiatives such as the **Better Cotton Initiative (BCI)** founded in 2005. While it also includes a social aspect, its key aim is to set standards for sustainability in cotton production and involves some of the largest brands and retailers as well as suppliers of the fashion industry (BCI, n.d.). Greenpeace has been a convinced actor in this field for some time now. With its various campaigns, such as the 'Detox my Fashion' campaign, it has increased the attention and awareness specifically around fast fashion (Greenpeace, 2016). On a global scale, the business-led **Sustainable**

Apparel Coalition (SAC, n.d.) which was initiated by Walmart and Patagonia in 2009 has developed the Higg Index, an indicator-based tool for garments. It helps businesses to evaluate the lifecycle impact of their materials, products, facilities and processes, and has rapidly gained popularity amongst manufacturers (Retail Forum for Sustainability, 2013). Finally, the **Zero Discharge of Hazardous Chemicals** (ZDHC, n.d.) which aims at improving and expanding the use of non-toxic and sustainable chemicals in the garment supply chains.

At the EU level, a number of more recent national multi-stakeholder partnerships have started to appear. These include for example the **German Partnership for Sustainable Textile** (Textile Alliance) and the **Dutch Covenant for Sustainable Apparel and Textile** (Textile Covenant). They are a direct response to the need for improving the sustainability of the garment sector. In 2018, they have announced to join forces by signing a partnership agreement (Made-by, 2018). Collective engagement is perceived as a way to drive fundamental changes, particularly for a country such as Germany which represents the biggest importer of textiles in the EU-28. Initiated by the German Federal Minister for Economic Cooperation and Development in 2014 as a cross sectorial collaboration the Textile Alliance consists of companies, trade unions, non-governmental organisations and the Federal Government. At present it already accounts for more than 50% of the German textile market and anticipates reaching a coverage of 75% by 2018. The Textile Covenant established in 2016 by the Dutch government aims at driving the transition towards establishing a sustainable and responsible garment industry (Made-by, 2016). Aligning sustainability requirements and tools is important in order to create a playing level field and to highlight that due diligence is not an issue of competition but rather a common denominator (Made-by, 2018).

Although SSCM has reigned the sustainability agenda of the garment industry for several decades now, the renewed awareness of working conditions and environmental degradation tied to this production-consumption system have translated into the creation of new initiatives. Furthermore, an increased amount of initiatives now includes or is being built on CE principles. These are promising solutions to some of the sustainability issues that the garment industry is facing especially with regard to the end of life stages of garments (EMA, 2017a).

The United Kingdom's **Sustainable Clothing Action Plan (SCAP)** is one of the few initiatives that intends on bringing stakeholder together to develop sector-wide targets to reduce resource use and to accentuate the role consumers should play (WRAP, n.d.). It was launched in 2013 by the **Waste and Resources Action Programme (WRAP)** to improve the sustainability of textiles across their life cycle from design to end-of-use. Initiatives that address issues of volumes, lifespan or reuse of clothing are minor compared to those that focus on production processes or product design. Yet, numerous LCA studies have demonstrated that the most considerable environmental benefits can be gained through increased garment lifespans and reuse due to the related decrease in virgin material, and resource use in the production phase (Farrant et al., 2010; Fisher et al., 2011; Woolridge et al., 2006). Through its 'Love Your Clothes' campaign, WRAP has been addressing consumer behaviour around garments for some time already. SCAP takes this one step further by prioritising reuse over recycling as it is eco-friendlier, energy efficient and cost effective.

Nevertheless, the EC is also funding numerous initiatives that specifically focus on resource efficiency, such as the **Resyntex** project which aims at creating industrial symbiosis to boost the production of secondary raw material from unwearable textiles (Resyntex, n.d.). Other projects conducted under the umbrella of Interreg specifically target policy dimensions related to production and innovation. The **CircE** project aims to strengthen the diffusion of CE and has helped to investigate the textile sector as a priority sector (Interreg Europe, n.d.). The

RegioTex initiative aims at strengthening regional innovation capacities, to facilitate investment or new technologies by SME's and to establish effective collaboration between regional actors (ETP, n.d.).

Even manufacturer and brands themselves are now taking the lead in establishing better conditions and governance mechanisms for the garment industry. A recent business-led initiative for example is to be found in **Fashion for Good** established by the C&A Foundation in 2017 (C&A Foundation, n.d.). Supported by the EMF and the Cradle-to-Cradle Products Innovation Institute it aims to build a global coalition of brands, producers, retailers, suppliers, non-profit organisations, innovators and funders united in their genuine ambition to make all fashion good (Fashion for Good, n.d.). It has taken up on some of the notions already propagated by the established European initiatives but has further extended its realm to include notions of CE principles. These initiatives have gained exposure through the collaboration with NGOs that are highly visible and have attracted a lot of attention, such as the EMF. Launched in 2017, its **Circular Fibres Initiative** (EMF, n.d.) which includes a number of industry partners such as H&M, Nike, Burberry, the C&A Foundation, and Walmart Foundation, plans to create a new textile economy. It builds up on the NGOs' existing expertise and aims to challenge the current industry operating model by unlocking the enormous economic opportunity that the CE transition can bring (EMF, 2015; EMF, 2013).

3.4 Theoretical framework

While the linear model and globalisation characterise the garment industry at present, they pose a challenge to effectively address related social and environmental impacts. Especially, as the EU only has a limited capacity to influence the environmental management and working conditions outside of its territorial jurisdiction. However, as part of the debate on how to best tackle some of the major sustainability issues in the garment sector, two concepts offering solutions have gained wider acknowledgement. The previous sections have outlined the current state of the European garment industry and the various sustainability challenges related to its production-consumption system. It has further looked at the framing of sustainable garments in the literature and what tools exist that help to assess their environmental impact.

The following sections will examine and clarify the Green Economy (GE) theory which has been strongly adopted at the international and European governance levels. The section then goes on to further to outline the solution frameworks offered by the CE and SSCM concepts by looking at their conceptual underpinning and implications for sustainability through the adoption of an environmental lens. Furthermore, the outline of these various concepts intends to ensure a more critical analysis and understanding of the current landscape of policies and initiatives undertaken by the EC.

3.4.1 Green Economy (GE)

Although there is no internationally recognised definition, the GE concept has been subject to various definitions in the literature, resulting in often diverging and contradicting conceptualisations of GE (Fatheuer, Fuhr & Unmüssig, 2016).

The term was first coined by Pearce, Markandya and Barbier in the 'Blueprint for a Green Economy' publication (1989). While the idea itself is quite vague, a discourse has established itself around the concept that has built up on research and practice in environmental economics developed over several former decades (UN, n.d., b). Up to 2008, the terminology around GE was used little and mainly in the green movement and political parties' circles (Fatheuer, Fuhr & Unmüssig, 2016).

The concept, which has often been associated with grassroots movements was then picked up and revived by the beginning of the economic crisis in 2008. The economic crisis not only uncovered the unsustainable growth principle of the current neoliberal system but also the increasing by-product of negative environmental externalities (Zovanyi, 2013). The beliefs in continued economic expansion embedded in the neoclassical ideology were challenged as it became apparent that they had given rise to an unsustainable pro-growth paradigm which cannot prevail in a finite system (Meadows, 1972). Green growth was perceived as offering a solution to these challenges and was more explicitly promoted by the UN's Economic and Social Commission for Asia and the Pacific. While on the other hand, the United Nations Environmental Programme (UNEP) championed the idea of 'green economy' through the identification of specific areas where large-scale public investments could spark a GE (AtKisson, 2012). It further inspired various governments and organisations such as the EC to propagate and implement GE packages as a part of their economic recovery efforts.

This paradigm seemed less devoid of content than the SD concept and influenced by the idea that climate change is the greatest market failure in history. Highly propagated by Stern's review on the Economics of Climate Change (Stern, 2007), environmental policies started to be increasingly perceived as an opportunity for new investments that can help to inform the transition towards a more efficient and resource saving economy. Contrary to the more radical thoughts put forward by the ecological economics discourse (Costanza, 1996; Daly, 1977) the GE has been increasingly underpinned by the idea that economic rationality does not contradict environmental policy and even goes as far as to foster it (Fatheuer, Fuhr & Unmüßig, 2016). It aims at decoupling economic growth from resource extraction by the main use of eco-efficiency and low-resource technologies supported by market-oriented policies (Hepburn and Bowen, 2013).

There is still an important ongoing debate on the meaning of 'greening the economy' as well as how much growth the earth can still withstand and how many natural resources are needed to alleviate poverty globally (Unmüßig, Sachs, & Fatheuer, 2012). Environmental policies that support research, development and deployment of green technologies are needed. These can help to not only integrate environmental concerns into the economic growth model but also to overcome market and government failures that hinder organisational changes (Hepburn, 2010). In 2008, UNEP launched its 'Green Economy Initiative' which provides analysis and policy support for investments in green sectors and for greening environmentally unfriendly sectors. In 2009, the UN released an interagency statement supporting the GE as a transformational agenda to address the multiple crisis the global community was facing. In 2011, the UNEP released its Green Economy report and partnered with private actors such as the Deutsche Bank and think tanks to give credibility to its economic analyses (AtKisson, 2012). Strongly advocating for a GE transition, the UNEP can be perceived as a consultancy for countries to help them frame and develop strategies and policies for GE investments.

The GE was also widely supported as a major theme at the Rio+20 conference in 2012. The selection of conference themes, official definitions and outcome documents are politically contentious processes. The global SD governance arena of the Rio+20 conference involved a large number of actors that often have different or conflicting interests, agendas or capabilities (Bulkeley, Jordan, Perkins & Selin, 2013). The decisions and choices made are therefore often a product of compromise that will shape the global policy agenda. From a strong sustainability perspective, however, critics argue that the efforts made can be seen as fundamentally flawed as they suffer from technocratism and the ignorance of social reform and environmental justice (Cook & Swyngedouw, 2012). Fatheuer, Fuhr & Unmüßig (2016) further argue that the subsequent global negotiations, for example the Paris Agreement for Climate Change

(UNFCCC, 2015), have also further influenced the conceptual underpinning of the GE discourse by reinforcing the emphasis of economic incentives rather than regulations to deal with environmental issues.

One of the most widely used and authoritative definition comes from UNEP (2011, p.17) that defines a GE “as one that results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities”. It is based on the triple bottom line which includes a social, environmental and economic dimension. Figure 3-5 illustrates a framework for the GE put forward by the United Nations Economic Commission for Europe (UNECE).

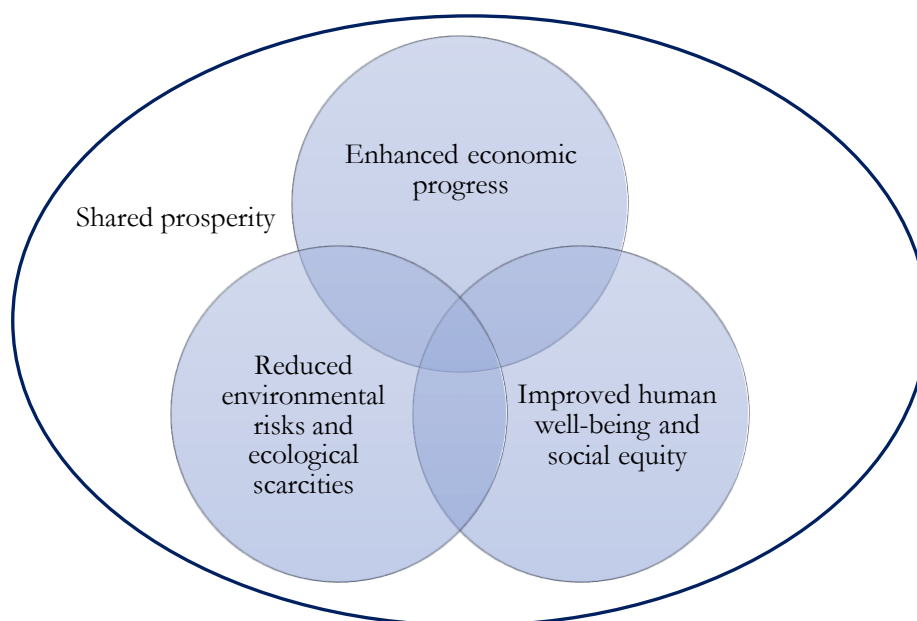


Figure 3-5 The green economy framework
 Source: Own illustration adapted from UNECE (2016)

The most commonly found definitions promise that the transition towards a GE will not only generate more economic growth but also reinforce GDP growth. The GE approach therefore does not perceive growth as problematic (Fatheuer, Fuhr & Unmüssig, 2016). Furthermore, while variations can be found in the theory, the majority views the industry and the finance sector as the main supporter of ecological reform ideas (Hepburn, 2010). Antagonists of this idea do not perceive green innovation as the right solution to preserve natural resources effectively and in the long term. They further consider economic instruments, such as carbon and biodiversity offsetting, as inadequate especially since planetary boundaries have already been surpassed (Santarius, 2012; Sarkar, 1999). Environmental policies should rather limit the resource depletion even if it means potentially harming economic growth (Daly, 2014; Martinez-Alier, 2002). This calls for economic relations to be rethought of especially as they directly affect social and environmental sustainability (Nadal, 2015).

Primarily based on large-scale technological solutions, the GE advocates for innovation, a concept that is closely tied to the bio-economy concept or the CE. The use of strategies and technologies to use resources more efficiently lays the foundations of the GE agenda, after the need to integrate nature into the economy. While these elements are positive in the sense that they criticise the old paradigm of neoliberal growth, critics however argue that it is not far reaching enough (Fatheuer, Fuhr & Unmüssig, 2016).

3.4.2 Circular Economy (CE)

The CE concept has emerged as a solution to the sustainability challenges presented by the current ‘take-make-dispose’ economic development model (Franco, 2017). Linguistically, it presents an antonym to the ‘linear’ economic system, defined as converting natural resources into waste by way of production. This leads to the deterioration of the environment by removing natural capital for example through unsustainable harvesting and by reducing the value of the natural capital caused by pollution from waste. The CE offers an alternative which advances an economy that has no net effect on the environment (Murray, Skene & Haynes, 2017). Additionally, it restores damages made in resource acquisition and ensures that as little waste as possible is generated throughout the production process and over the entire lifecycle of a product.

The CE concept is still hard to define in absolute terms as there is no single generally accepted definition in academic and policy circles (Ghisellini, Cialani & Ulgiati, 2016). There is an important number of relevant concepts that overlap with some of the CE principles, adding to the confusion around the concept. Ideas related to a CE emerged sporadically as early as the 1960s and 70s, including among others, Carson’s ‘Silent Spring’ (Carson, 1994), Boulding’s ‘Spaceship earth’ analogy (Boulding, 1966), the Club of Rome’s ‘Limits to growth’ (Meadows, 1972), while notions of closing and slowing loops by Stahel & Reday-Mulvey (1981) or the work of the ecological economist Daly (1977) are also important. The concepts of CE, degrowth and steady-state all share the aim of creating an economy that operates within the planetary limits, against the growth-oriented business-as-usual propagated by neoclassical ideologies (Ghisellini, Cialani & Ulgiati, 2016).

Pearce and Turner (1990) somewhat later coined the term of CE and have further developed conceptual frameworks for it (Milios, 2016). The authors specifically highlight the interlinkage between the environment and the production-consumption economic model (Morone & Navia, 2016). Further to this, they propose a circular concept that builds upon the idea that the environment is a resource base and sink for economic activities at the same time as being the fundamental life support system. However, Ghisellini, Cialani & Ulgiati, (2016) argue that the CE theoretical framework requires more refinement especially with regard to how it can affect international trade and the role of institutions. They further highlight that CE is not a suitable tool for growth-oriented economic systems in which the rebound effect and market competition are probable to abate the potential benefits of increased efficiency.

The principles of CE are found in the 3Rs (reduce, reuse, recycle) and the 6Rs (reuse, recycle, redesign, remanufacture, reduce, recover) (Lieder & Rashid, 2016; Winans, Kendall & Deng, 2017). The CE concept is interwoven with numerous other concepts, some that predate it like industrial ecology or systems theory (Ghisellini, Cialani & Ulgiati, 2016). Building upon various complementary concepts it has currently further evolved to include, amongst others, notions of eco-design, lean manufacturing, industrial ecology, biomimicry, blue economy, regenerative design, cradle-to-cradle, life cycle thinking, waste-to-resources, performance economy, natural capitalism, sustainable consumption and production, dematerialization, functional economy, circular business models, and product-service systems (Bocken, et al., 2017; EMF, 2015; Geissdoerfer, et al., 2017; Milios, 2017).

Although the concept itself is not new, the momentum around it is gaining immense attention among businesses and policy makers in the EU, foremost steered by the not for profit organization EMF. The NGO has brought forward the most popularised definition of CE as being “*an industrial system that is restorative and regenerative by intention and design*” (EMF, 2013) that “*aims to keep products, components, and materials at their highest utility and value at all times*” to “*ultimately*

decouple global economic development from finite resource consumption” (EMF, 2015). Others have characterised CE as “the circular (closed) flow of materials and the use of raw materials and energy through multiple phases” (Zengwei, Jun & Moriguichi, 2006, p.5). Geissdoerfer, et al. (2017, p.759) define the CE as “a regenerative system in which resource input and waste, emission, and energy leakage are minimised by slowing, closing, and narrowing material and energy loops. This can be achieved through long-lasting design, maintenance, repair, reuse, remanufacturing, refurbishing, and recycling”. Ghisellini, Cialani & Ulgiati (2016, p.) in their contribution have defined it as an “economic model regulated according to the laws of the nature (networks of interacting components, exchange of material and energy flows, recycling patterns and, environmental mimicry)”. Franco (2017, p.834) builds up on these definitions to characterise CE as “a purposefully designed, interconnected system where materials flow in a closed-loop manner in order to advance sustainability”.

The environmental dimension is central to the CE concept. The CE which has been conceived as a “continuous positive development cycle” is built on three principles that help implementing its sustainability vision. These include the preservation and enhancement of natural capital, the optimization of resource yields, and the minimization of system risks by managing finite stocks and renewable flows (EMF, 2015, p.19). Ghisellini, Cialani & Ulgiati, 2016 (2016) further suggest that efficiency and environmental protection are essential factors to orient policies for the transition to new production-consumption patterns that incite more sustainable lifestyles and socio-economic dynamics. The CE principles thereby not only enable key policy objectives such as reducing environmental impacts and GHG emissions but also to preserve economic growth.

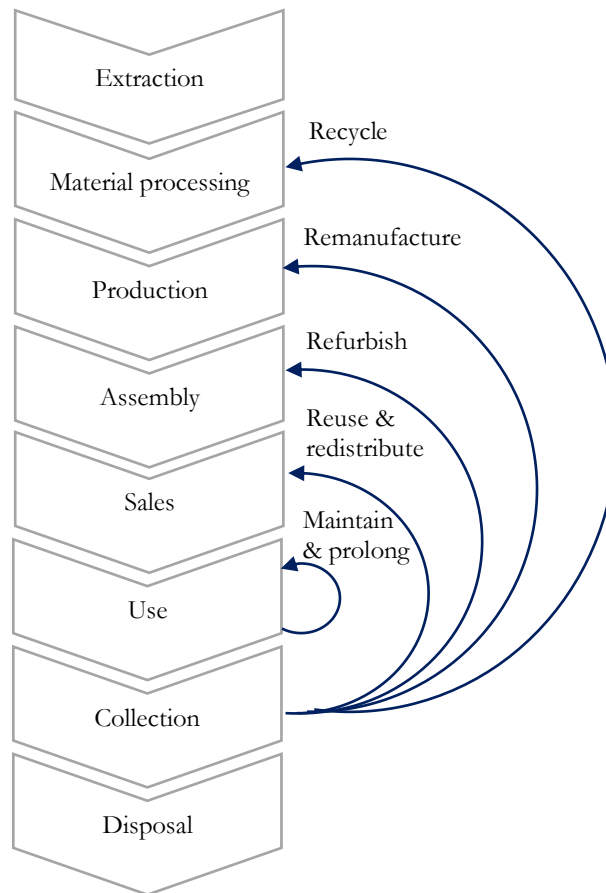


Figure 3-6 Circular Economy framework

Source: Own illustration adapted from The Ellen MacArthur Foundation (EMF, 2015)

The CE framework, as illustrated in Figure 3-6, offers solutions as to how the full value of a product can be captured at the greatest extent possible (Watson, Eder-Hansen & Tarneberg, 2017). It thereby not only retains value throughout a product's lifecycle but also significantly enhances environmental savings and increases security in the supply of resources. Sharing and recirculation enhance the active lifetime of a product, while repairs can further extend it. If the product is no longer fit for use its materials can be recovered and recycled to make them useful in new products. This entails that products need to be correctly designed for long-lasting, easily repairable and recyclable at their end of life. Business models based on sharing and recirculation, repair and recycling will need to be established to ensure a well-functioning circular system. It therefore entails a collaborative effort from all stakeholders, from businesses to retailers, consumers and policy makers. It offers a vision to complement ongoing efforts to transform the garment system to be more sustainable by minimising its negative effects (EMF, 2017a).

Highly applicable to the garment sector it encourages a shift from *“garments that are only used by a single consumer and have a long ‘idle-time’ in a closet before being disposed of in mixed household waste, towards garments which are under continual active use by consecutive users and at the end of functional life are recycled into new garments”* (Watson, Eder-Hansen & Tarneberg, 2017, p.9). It therefore challenges consumer's perceptions of garments from being disposable items to being of value and advocates for slowing down consumption patterns.

Genovese et al. (2017) highlight that the CE concept is increasingly being perceived by businesses as offering a mechanism that can be used to create a competitive advantage. They criticise that it is foremost concerned with material flows in economic systems through a paradigm shift of the production philosophy. However, it actually leaves out a true understanding of environmental lifecycle impacts and their respective implications. Despite its idealistic principles, it still has implications of environmental externalities, which mainly occur as a result of transactions between different entities, for example, in the form of material flows or resources.

3.4.3 Sustainable Supply Chain Management (SSCM)

In a globalised world, numerous production processes are highly fragmented and dispersed. This is especially true for the garment industry, whose Supply Chain Management (SCM) can be characterised as retail-led, with relatively short product lifecycles and highly consumer driven demand (Choi et al., 2014). Focal companies, suppliers and customers build a network that is linked by information, material, and capital flows (Seuring & Müller, 2008). The focal company usually governs the supply chain as it designs the product and is in direct contact with the customers. However, in line with the value creation of a product, social and environmental burden occur during its manufacturing stage. This means that focal companies can be held responsible for the social and environmental performance of their products and processes, which might often be managed by their suppliers.

The dissemination of sustainability concerns has set the stage for SSCM to arise as a potential sustainability strategy (Carter & Rogers, 2008). This has been not only reflected at the national level where regulations were developed in line with these concerns, but also at the organisational level. Businesses represent the engines of growth and development in market economies, which is why a corporate sustainability approach requires organisations to increasingly include a holistic approach based on the triple bottom line. This transfer of SDGs to the business level can be defined as corporate sustainability.

While the concept of SCM can usually be defined as the evaluation of the various components of its integrated structure it has been developed in order to improve the operating performance of value chains (Turker & Altuntas, 2014). The SSCM has widened this concept by integrating sustainability concerns. It therefore provides an analytical tool which helps to capture new sources of competitive advantage based on sustainability thinking. For example, this can be translated into actions such as the inclusion of sustainability elements in the product design to offer a better value to customers, or the efficient management of an organisation's reputation and inter-organisational relations (Trent, 2004). Furthermore, it enables companies to pursue environmental responsibility (Caniato, et al., 2012). The more systems-oriented an organization is, the more it considers the full spectrum of sustainability issues, thereby widening the circle of concerns and stakeholders to involve. However, SSCM implications can vary strongly depending on the structure of their respective supply chain (Caniato, et al., 2012).

At its core, SSCM is built on economic, environmental and social considerations, as well as a stronger cooperation between stakeholders to achieve long-term strategic goals (Li, et al., 2014). Various definitions can be found in the literature, which closely link sustainability to the SCM concept. The term SSCM is often used interchangeable with Green Supply Chain Management (GSCM), with the slight difference that GSCM puts more emphasis on environmental issues (Ahi & Searcy, 2013). SSCM can therefore be seen as an extension of GSCM as it adopts a broader triple bottom line. Ahi & Searcy (2013) therefore characterise SSCM as the integration of corporate sustainability into SCM whereby the key dimensions of corporate sustainability are combined with SCM characteristics. Seuring & Müller (2008, p.1700) define SSCM as *“the management of material, information and capital flows as well as cooperation among companies along the supply chain while taking goals from all three dimensions of sustainable development, i.e., economic, environmental and social, into account which are derived from customer and stakeholder requirements.”*

Genovese et al. (2017, p.345) suggest that SSCM *“seeks to integrate environmental concerns into organisations by minimizing materials' flows or by reducing unintended negative consequences of production and consumption processes”*. This has also been underlined by Carter and Rogers (2008, p.368), which have introduced further facets of SSCM as *“the strategic, transparent integration and achievement of an organization's social, environmental, and economic goals in the systemic coordination of key organizational business processes for improving the long- term economic performance of the individual company and its supply chains.”*

Hereby, the term of risk management plays a crucial role as it underlines that the majority of corporations ignore the adverse impacts on the environmental and society that their products and processes might have. Supply chain risks are perceived as an inherent concern to the organization's reputation or ability to meet consumer demands. Transparency hereby helps to monitor the processes throughout the supply chains and the communication with respective stakeholders (Vurala, 2015). Additionally, strategy and organisational cultures are important factors that need to be in line with SSCM practices in order to ensure the implementation of actions and to reach sustainability goals within the supply chain. Figure 3-7 illustrates the conceptual framework that SSCM is informed by.

The literature essentially characterizes SSCM as a voluntary integration of sustainability considerations into key inter-organisational systems to create a coordinated supply chain to effectively manage material, information and capital flows associated with the procurement, production and distribution of products for long term sustainable growth (Dubey, et al., 2017). The environmental dimension of SSCM addresses the relationship between SCM and the natural environment. Thereby it integrates sustainability thinking into the product design,

material sourcing and selection, the manufacturing process, the delivery of the final product to the consumer and the end of life management of the product (Caniato, et al., 2012).

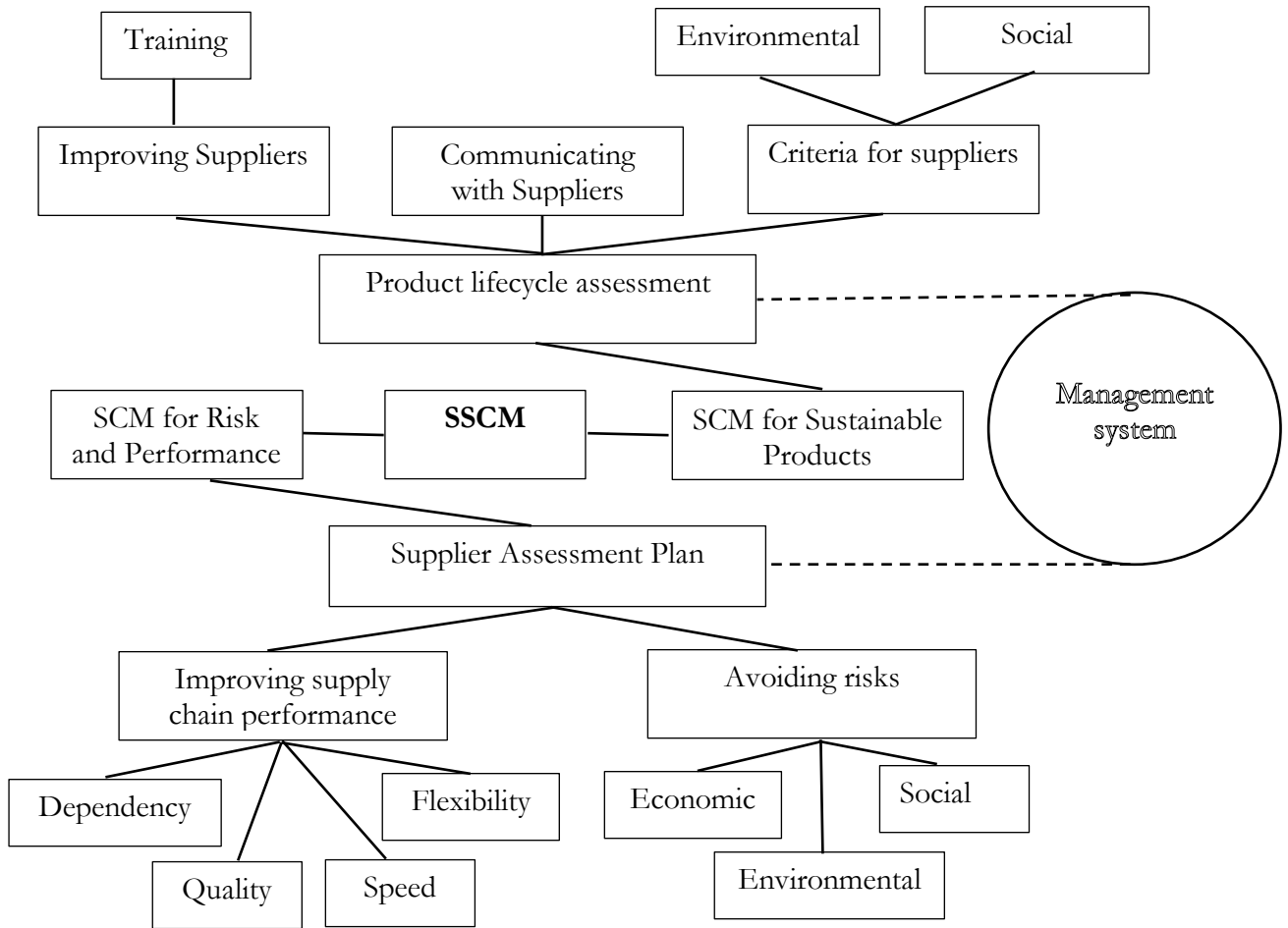


Figure 3-7 Sustainable Supply Chain Management framework
 Source: Own illustration adapted from Turker & Altuntas (2014)

In order to improve the overall environmental performance of an organisation, SSCM practices need to be implemented. A number of trends can be noted that have increasingly pushed the SSCM agenda forward. These include amongst others the increased use of technology to mobilise innovation, collaboration and transparency in supply chains, growing shareholder pressure, or sustainable procurement that can influence business purchasing decisions. The SSCM concept offers a strategy which entails that managerial decisions should be aimed at ensuring that the company and its supply chain perform well in all sustainability dimensions (Wan Ahmad, et al., 2017). As to the environmental dimension, it can be done through the strategic integration of lifecycle concerns into the management of resources and the delivery of products. However, this means that in order to achieve environmentally sustainable practices manufacturers need to move beyond the immediate concern of gaining profits and take necessary steps in order to protect environmental interests.

3.5 Research context based on literature review

Although there are no internationally agreed-upon definitions of the GE theory or the CE and SSCM concepts, some of their basic underpinnings have led to a shared understanding by some of the most influential international organisations. When it comes to environmental sustainability, what can be deduced from the GE concept is that it acts as an umbrella concept (D'Amato, et al., 2017). This means that it includes various elements from CE, such as eco-efficiency or the higher use of renewables, but also from SSCM with its notions of a triple bottom line and SCP. A number of key conceptual elements and priority themes associated with GE, CE and SSCM can be outlined that are common to the three concepts, as summarised in Table 3-1.

Table 3-1 Conceptual underpinnings and priority themes of GE, CE and SSCM

| Conceptual underpinning | GE | CE | SSCM |
|---------------------------------|-----------|-----------|-------------|
| Competitiveness | ✓ | ✓ | ✓ |
| Triple bottom line | ✓ | | ✓ |
| Resource efficiency | ✓ | ✓ | ✓ |
| Use of natural capital | ✓ | ✓ | |
| Renewable energy | ✓ | ✓ | |
| Decoupling | ✓ | | |
| Decarbonisation | ✓ | | |
| Innovation | ✓ | ✓ | ✓ |
| Polluter pays principle | ✓ | ✓ | |
| LCA | | ✓ | ✓ |
| Technologies and data | ✓ | ✓ | ✓ |
| Governance | ✓ | | ✓ |
| SCP | ✓ | ✓ | ✓ |
| Eco-design | ✓ | ✓ | ✓ |
| Waste management | | ✓ | |
| Sustainable Procurement | ✓ | ✓ | ✓ |
| Collaboration | ✓ | ✓ | ✓ |
| Transparency | | | ✓ |
| Supply Risk management | | ✓ | ✓ |
| Corporate Social Responsibility | ✓ | | ✓ |
| Due diligence | | | ✓ |
| 6Rs | | ✓ | |
| Lean manufacturing | | ✓ | |
| Biomimicry | | ✓ | |
| Product-service systems | | ✓ | |

Source: Own elaboration

The GE theory acknowledges the underpinning role of all ecological processes, while the CE concept is more resource focussed (D'Amato, et al., 2017). The GE is also more inclusive of some social aspects, which is more prevalent in the SSCM framework.

However, a number of key conceptual elements and priority themes associated with CE and SSCM can also be outlined that are common to the CE and SSCM concepts. These include for example notions of collaboration, sustainable consumption and production, innovation, lifecycle assessment, eco-design, or sustainable procurement. However, some major differences exist as well. For example, due diligence and Corporate Social Responsibility are some of the main building blocks of the SSCM, which are not touched upon by the CE concept at all. On the other hand, the CE focussed strongly on the environmental dimension by including elements of waste management, renewable energy use, product-service systems or the polluter pays principle. It therefore advocates for a new conceptualisation of waste as a resource, thereby challenging the old linear economy paradigm, rather than adopting solutions or strategies that aim at enhancing processes but ultimately do not change the system that the garment industry works in.

Yet, when considering the strong sustainability vision propagated by the ecological economics literature, all three concepts remain limited in their criticism of economic growth and pushing environmental boundaries. In order to push the boundaries of environmental sustainability. Genovese et al. (2017) argue that the CE principles should therefore be aligned with SSCM strategies. Interestingly both concepts have been picked up by the industry and policy makers, however, showcase some fundamental differences in their principles. While the various conceptual elements could potentially have a mutual reinforcement of the two concepts, their separate use however could hinder the development of an effective governance structure that effectively addresses the environmental issues of the garment industry. The next chapter will therefore investigate how the concepts have been picked up by the EU which has started to focus its action agendas on the most prominent sustainability issues of the garment industry.

4 Findings and Analysis

The previous chapter on Literature has outlined the theoretical framework, which will further guide the coming chapter. The current state of the European garment sector has illustrated that major sustainability issues have begun, at least to some extent, to be addressed by the industry, policy makers and consumers in order to alleviate planetary boundaries and resource scarcity. However, these efforts will need to be scaled up and anchored within a broader systemic change towards a truly sustainable garment industry. Sustainable solution frameworks put forward by academics already exists, mainly underpinned by the CE and SSCM concepts, offering strategies to enable a sustainable transition of the garment industry.

This chapter will first investigate the European environmental policy discourse and its development. While first interrelations between the conceptual underpinnings of the GE theory and the CE and SSCM solution frameworks have been outlined in Sections 3.4 and 3.5, the first part of the Findings and Analysis chapter will further illustrate how they appear and are being discussed in EC's policy documents.

The policy landscape shaped by the EC's Directorate-Generals (DGs) with regard to the creation of sustainable garment initiatives will subsequently be examined, by focussing on two selected initiatives. These include the EU Garment Initiative and the ECAP. This will enable to highlight how the two concepts are being framed and translated into action plans. It will further allow for a more in-depth analysis of where their conceptual elements overlap, what differences exist, and if they mutually reinforce each other, and thereby, contribute to or hinder the development of an EU governance structure that effectively addresses sustainability issues in the garment industry.

4.1 European environmental policy discourse

The GE theory, outlined in Section 3.4.1, has strongly influenced the European environmental policy discourse. As an area of shared competence between the EU and its Member States, environmental policy often requires to be tackled at the regional rather than the national level. This is especially true for environmental degradation spanning national borders.

As argued by Kemp, Loorbach & Rotmans (2007), the multi-scale, long-term and complex nature of socio-economic transformations calls for society-wide engagement in governance. However, it is the role of government to create a framework for such engagement. Especially because the organisation and regulation of markets as well as the correction of market failures is a crucial part of the government's responsibilities. The EC itself has characterised its role as finding common solutions that promote a level playing field and fairer competition within a single market (EC, 2016c). Additionally, at a global level, the EU is more successful in addressing environmental challenges through international cooperation by speaking with one voice.

4.1.1 Development of the environmental policy discourse

System transitions or change can be seen as the most recent environmental policy thinking within the EU, which has progressed through a number of theories in the past (EEA, 2018). Environmental policy development has been influenced by a number of solution concepts throughout the last decades (Smith, Voß & Grin, 2010). These include, for example, end-of pipe solutions in response to local environmental problems in the 1970s and 80s. This evolved towards notions of cleaner production by redesigning manufacturing processes in the 80s and 90s, while the 1990s and 2000s were characterised by eco-innovation and green technologies. Currently, the idea of system transitions, which propagates the inclusion of a wider range of

actors and a more radical vision of new kinds of systems and functionalities is gaining increased attention. Academic literature but also policy documents increasingly cite the need for a transition towards ‘sustainable development’, ‘a green economy’, ‘a resource-efficient economy’ and ‘a circular economy’ (Commission Proposal COM(2010)2020 final; Commission Proposal COM(2011)363 final; Commission Proposal COM(2012)710 final; Commission Decision 1386/2013/EU; Commission Proposal COM(2014)0398 final; Commission Proposal COM(2015)614 final).

4.1.2 Development of the GE concept in the EU

Already in 2010, the EC attempted to develop a plan for green growth built on the promotion of a ‘resource-efficient’, ‘sustainable’ and ‘competitive economy’. Through its **Europe 2020 strategy** (Commission Proposal COM (2010)2020 final), the EC has set its priorities for where it wants Europe to be in 2020. It has thereby ascribed the full responsibility of creating a ‘sustainable economic governance’ to the EU, rather than individual Member States. Integrated guidelines adopted at the EU level were highlighted as being responsible for shaping Europe’s priorities and targets. The Council has hereby been designated as the focal point of the strategy by taking full ownership for it. The EC’s role is to monitor the progress towards targets, to facilitate policy exchange and make necessary proposals to steer action and advance EU flagship initiatives. The EP for its part will be the driving force to mobilise citizens and act as co-legislator on key initiatives. This partnership approach also extends to EU committees, national parliaments, national, local and regional authorities, social partners, civil society and all stakeholders that can help to deliver the vision. This has laid the principles for EU policy making, steered by the idea of ‘green growth’.

The main advocate of the GE concept within the EU is the European Environmental Agency. In its ‘State of the environment report 2010’ (EEA, 2010), it outlines that Europe needs to adopt a more integrated approach to address persistent, complex and systemic challenges resulting from the conventional economic model. The transformation towards a GE is thus clearly identified as a key environmental policy priority at the EU level for the coming years. The EEA further establishes a definition of a GE as “*one in which environmental, economic and social policies and innovations enable society to use resources efficiently, thereby enhancing human well-being in an inclusive manner, while maintaining the natural systems that sustain us*” (EEA, 2010).

After the economic crisis of 2008, many of the elements propagated by the GE theory were rapidly picked up at the European level and have made their way into environmental and economic policy making. The EU has established a vision of structural and technological changes extending as far as 2050 in order to transition towards a ‘sustainable growth’ model. The Europe 2020 strategy policy document (Commission Proposal COM(2010)2020 final) lays out that the EU’s leadership in the race to develop new processes and green technologies will need to be further strengthened. It also points towards the need to reinforce the competitive advantages of EU businesses, especially with regard to assisting consumers to value resource efficiency. It thereby clearly adopts a GE discourse, which underpins the idea of an economy, which will “*prosper in a low-carbon and resource constrained world while preventing environmental degradation, biodiversity loss and unsustainable use of resources*” (p.14).

The Europe 2020 strategy has set the stage for a transition towards a GE, by clearly mentioning some of the conceptual elements laid out by its theoretical framework, as depicted in Section 3.5. This includes the repetitive and evident use of key words such as ‘resource efficiency’, ‘energy efficiency’, ‘innovation’, ‘decoupling’, ‘decarbonisation’, ‘green technologies’, or ‘green public procurement’.

The Europe 2020 strategy has further set the ground for a number of flagship initiatives to be created, including a 'Resource efficient Europe'. In a consecutive communication **'Roadmap to a resource efficient Europe'** (Commission Proposal COM(2011)0571 final), the EC further accentuated the crucial need to transform the European economy within the time span of one generation. As highlighted by Brand (2012), 'reduction of resource use' and 'increase in resource efficiency' were outlined as key mechanisms to cope with environmental challenges and resource scarcity, all by offering strategies to strengthen the EU's competitiveness. The GE theory quickly showed potential in becoming the new leading strategy in the European political discourse, especially as it offered a framework that enables the inclusion of environmental considerations into the growth paradigm. Furthermore, it built up on the Organisation for Economic Cooperation and Development (OECD) green growth strategy which focused on mutually reinforcing elements of economic and environmental policies, and highlighted innovation as a mean to decouple economic growth from resource depletion (OECD, 2011). This was further substantiated by the EEA in its communication about the Rio Conference in 2012, which has continuously advocated for the move towards a GE (EEA, 2012; EEA, 2013; EEA, 2015; EEA, 2017).

As substantiated by Domenech & Bahn-Walkowiak (2017) and Milios (2017), the EC has been pushing this new policy context by promoting approaches and incentives for resource efficiency with the aim to instigate the transition towards decoupling resource use from economic development. This fundamental advance based on the GE theory has been manifested through the EU's **7th Environment Action Programme (EAP) to 2020** (Commission Decision 1386/2013/EU), which has further reinforced ideas of 'planetary boundaries', 'natural resilience' and 'resource efficiency'. It builds up on policy initiatives in the Europe 2020 strategy, such as the 'Roadmap to a Resource Efficient Europe' (Commission Proposal COM(2011)0571 final) or the 'European Union Strategy for Sustainable Development' (Commission Proposal COM(2001)0264 final.).

While the 7th EAP guides environmental policy until 2020, it has set the transition towards a GE as the priority objective for the EU. Setting a vision for the long term, it has also clearly highlighted the need to move towards a CE to increase resource efficiency (Annex, 1):

"In 2050, we live well, within the planet's ecological limits. Our prosperity and healthy environment stem from an innovative, circular economy where nothing is wasted and where natural resources are managed sustainably, and biodiversity is protected, valued and restored in ways that enhance our society's resilience. Our low-carbon growth has long been decoupled from resource use, setting the pace for a safe and sustainable global society."

As substantiated by the Institute for European Environmental Policy (2012), the 7th EAP clearly demonstrates the overall added value of EU environmental policy relating to the future well-being of EU citizen, the economy and external security. But its most important achievement is to highlight the insufficient implementation and enforcement of EU legislation regarding environmental policy, which is why leadership is required, which will benefit the overall execution of EU law. It tries to close the strategic gap that has emanated from a number of agendas put in place, which offer little clarity as to long-term targets, for example the resource efficiency or biodiversity agendas, and that have left inter-linkages between different strategies unclear. Additionally, it is argued that nature protection will need to be incorporated more effectively in the relevant EU policies. From an environmental perspective, the issue of land use also needs to be correctly addressed as it is influenced by EU policy, and contributes to the EU's climate mitigation and adaptation agenda, without any strategic underpinnings.

Therefore, in addition to efforts to protect ecosystems and their respective services, an all-encompassing and appropriate strategy is necessary to incorporate all these crucial elements.

4.1.3 CE and SSCM concepts within the GE framework

The 7th EAP has further set the stage for conceptual elements of the CE and SSCM concepts to emerge. Priority objective 2 states that existing policy instruments relating to production and consumption are limited in their scope. It perceives a crucial need for measures that will improve the environmental performance of goods and services on the Union market over their entire lifecycle, including measures to increase the supply of environmentally sustainable products and their demand by consumers. Bringing forward explicit notions of the CE and SSCM concepts, it underlines the need for long-term, integrated strategies for ‘resource efficiency’ and ‘sustainable sourcing’ taking into account the entire lifecycle of products. In its Priority objective 6 (84. ix), it suggests putting in place incentives and methodologies that stimulate businesses to measure the environmental cost of their processes and help them exercise due diligence throughout their supply chain. The ‘risk of supply’ is further mentioned throughout the document, highlighting the EU’s strategic orientation towards concepts that promise solutions to resource scarcity and environmental degradation.

Emphasising the need for the integration and collaboration of various policy areas, the 7th EAP states that the *“transformation into an inclusive green economy requires the integration of environment issues into other policies, such as (...) trade, economy and industry, (...) development, foreign affairs, (...) as to create a coherent, joined-up approach.”* (Annex, 11). The move towards a GE can therefore be seen as an inherently political project. The development and implementation of major policy changes is often a difficult and contested process, highly influenced by a number of stakeholders, such as industry associations, civil society organisations or environmental NGOs (EEA, 2018). In itself, the concept of transition can be seen as a way to reframe discussions on sustainability, and has been used by a number of EU institutional actors, such as the EEA and EC. It further represents a consistent and central concept in the EU’s 7th Environment Action Plan. The notion of ‘systemic transition’ is used as an action framing, broadening the scope of innovation from its traditional technology-driven product and process focus to sustainability in order to embrace a wider economic and social transformation (EEA, 2018). The idea of ‘transition’ is related to different system changes to be found in the CE concept, which challenges the linear economic paradigm. It is also found in the concept of sustainable patterns of production and consumption that SSCM is working towards.

In 2012, the European Resource Efficiency Platform released a memo entitled **‘Manifesto for a resource-efficient Europe’** which called on businesses and civil society to support innovation and investment in resource efficiency (EC, 2012). This platform, active between 2012-2014, included a number of members from the EC, the EP, and academia, as well as national ministers, business CEOs, representatives of NGOs and civil society. Its principal aim was to provide high-level guidance to the EC, Member States and private actors on the transition to a more resource-efficient economy. Notions of SSCM were also cited throughout the document, which calls attention to the need for ‘codes of conduct’ and ‘sustainable sourcing’ to create a level playing field, reward front runners and to take into account the social and international implications of European actions. It has further highlighted the need for CE and SSCM sustainability strategies to emerge:

“Creating better market conditions for products and services that have lower impacts across their life-cycles, and that are durable, repairable and recyclable, progressively taking the worst performing products off the market; inspiring sustainable life-styles by informing and incentivising consumers, using the latest insights into

behavioural economics and information technology, and encouraging sustainable sourcing, new business models and the use of waste as raw materials.”

However, an explicit strategy dedicated to CE only appeared in 2014 with the EC's Communication 'Towards a Circular Economy: A zero waste programme for Europe' (Commission Proposal COM(2014)0398 final). This was welcomed by a number of stakeholders, such as the Committee of the Regions (CoR), which emphasised that it “requires the political will for change, a long-term investment policy and planning of that investment, and a shift in public awareness, involvement and behaviour regarding resources” (CoR, 2014). It further accentuated that waste prevention should come before any other consideration as this also represents a key element of the CE. The CoR therefore argues that the EC should impose binding waste prevention targets accompanied by financial incentives as well as to fully implement the ‘polluter pays principle’. However, the programme was also criticised for not reaching far enough, so another more ambitious commitment was presented in December 2015, entitled ‘Closing the loop - An EU action plan for the Circular Economy’ (Commission Proposal COM(2015)614 final). The EC organised a CE conference in Brussels on the 25th June 2015 which was attended by around 700 stakeholders. It accentuated that the participation in this conference was open to those ‘wishing to contribute to shaping European economic policy making’, without mentioning the environmental aspects involved (EC, 2015b).

While the focus of the CE adopted by the EC is based on established notions of resource efficiency, it more specifically underlines the economic opportunities arising from saving resources (Bocken, et al., 2017; Milios, 2017). As pointed out by EC Vice-President Jyrki Katainen (responsible for jobs, growth, investment and competitiveness) “*Today we are saying that Europe is the best place to grow a sustainable and environmentally-friendly business. This transition towards a more circular economy is about reshaping the market economy and improving our competitiveness. If we can be more resource efficient and reduce our dependency on scarce raw materials, we can develop a competitive edge. The job creation potential of the circular economy is huge, and the demand for better, more efficient products and services is booming.*” (EC, 2015b).

The CE represents the latest effort to conceptualise how environmental concerns can be integrated within the economic paradigm in a sustainable way (Murray et al., 2017). The CE package further includes various legislative proposals and an Action Plan to fuel a fast integration of the principles within the value chains of production and consumption at the EU level. The official definition characterises the CE as an economy “*where the value of products, materials and resources is maintained in the economy for as long as possible, and the generation of waste minimised*” (Commission Proposal COM(2015)614 final).

As to the concept of SSCM, the EC was already advocating for the role of public policy to promote Corporate Social Responsibility (CSR) in its 2001 Green Paper (Commission Proposal COM (2001)366). However, the Europe 2020 strategy (Commission Proposal COM (2010)2020 final) manifested the EC's commitment to further expand on it. While SSCM has been propagated as a sustainability strategy in line with the GE discourse, the EC has started directly addressing supply chain issues through its Communication on CSR in 2011 (Commission Proposal COM(2011)681 final). It is part of the EU's efforts to achieve the SDGs, some of which directly relate to sustainability and responsibility in supply chains. It has adopted a horizontal approach to policy formulation based on its strategy ‘Policy Coherence for Development’ (Commission Communication SEC(2010)421 final). The operational framework creates aims to enhance coherence of EU policies with development objectives. Trade remains a crucial action area for SD, and is largely driven by the private sector (Commission Communication SWD(2015) 159 final).

With its various efforts regarding private sector engagement, the EC encourages companies to take responsibility for the impact that their supply chain activities have on society and the environment. However, the encouragement to adhere to international guidelines and principles has not resulted in any binding legislation at present. In 2014, the EC adopted a Communication laying down the potential for closer collaboration with the private sector in development assistance (Commission Proposal COM(2014)263). The Communication refers in its Action 10 to the promotion of “*international CSR guidelines and principles through policy dialogue and development cooperation with partner countries, and enhance market reward for CSR in public procurement and through promotion of sustainable consumption and production.*”

In essence, the GE theory in the EU has shaped the environmental policy development by offering a framework that helps conceiving an economy within planetary boundaries. While economic growth and development are essential goals of the EU, the necessity to contribute to their sustainability has been recognised. The need to support this aim by policies and institutions is debated, as some institutions, such as the EC or the Council, argue that voluntary measures will guide private actors in the transition to a GE. Critics in the EP or the CoR, however counter argue that voluntary measures are not enough to bring about the right changes. The sustainability strategies offered by the CE and SSCM concepts have made their way into the environmental policy discourse. Although certain conceptual elements can be traced back several decades, explicit strategies based on their solution frameworks have been propagated more recently by European policy makers. The CE concept offers solutions in line with a systemic change contributing to the security of supply and the reduction of environmental impacts of production-consumption systems. It thereby addresses issues along the entire supply chain. The SSCM concept acknowledges the globalised nature of production-consumption systems. It offers a more specific strategy to incorporate environmental concerns within the processes of businesses often relying on global supply chains.

4.1.4 Implementation of environmental policy discourse

The GE theory has been endorsed throughout the work and action plans of a number of DGs. This becomes apparent when analysing their strategic plans, which outline how their work will contribute to the EC’s broader political goals (EC, 2016c; EC, 2016d).

For one, the work of the DG for the Environment (‘DG ENV’), responsible for the proposal and development of environmental policies and legislation at the EU level, is guided by green growth and CE concepts. In its strategy plan, it underlines that ‘resource efficiency’, ‘eco-innovation’ and ‘waste management’ measures can support the move towards an economy that not only is more environmentally friendly but also provides more growth and job opportunities (EC, 2017b; EC, 2016c).

Actively propagating the need to move towards an energy and resource efficient economy, the DG ENV has identified various action areas that it can be involved in. This includes primarily the Sustainable Consumption and Production (SCP) Action Plan (Commission Proposal COM(2008)0397 final) presented in July 2008 and further endorsed by the Council (Council Conclusion 16914/08). It includes a series of proposals on SCP, which contribute to improving the environmental performance of products and increasing their demand, thereby mirroring solutions propagated by the SSCM concept. These are strongly interconnected and build up on other policy action areas, including, amongst others, the Eco-Design Directive (Council Directive 2009/125/EC), and Eco-Innovation Action Plan which highlights the need to invest in ‘eco-innovation’ and ‘green technologies’ (Commission Proposal COM(2011)0899 final), the Ecolabel Scheme (Council Regulation (EC) No 66/2010), Green Public Procurement (Council Directive 2014/24/EU), or Integrated Product Policy (Commission Proposal

COM(2003)0302 final). They act as an encouragement for the industry to take advantage of the opportunities to innovate. The management of the lifecycle of resources is underlined as essential to green growth and the creation of a resource-efficient, CE.

The various policy areas are an integral part of the EU's SD strategy, which reinforces the EU's commitment to meet future challenges and builds on initiatives and instruments at the EU as well as international level. This includes for example the UN's Marrakech Process (UN, 2008), which has steered the EU's international cooperation policies by promoting SCP practices in partner countries. Under this umbrella, the DG ENV has started so-called 'Circular Economy missions to third countries'. On one hand, these aim at helping developing markets to adopt environmental standards for more sustainable products and, on the other hand, providing new opportunities for eco-innovative companies in Europe (EC, 2018c). This clearly shows that there is an opportunity in moving towards a CE, which promises to reduce environmental burdens, while at the same time strengthening the competitiveness and economic growth of the EU. Development cooperation and diplomacy efforts are therefore portrayed as innovative public policy tools that help to advance the transition paradigm disseminated by the GE discourse and CE concept.

DG ENV works closely with other DGs to implement environmental policy, notably DG Climate Action on most of its work areas (EC, 2016c). It collaborates closely with DG Internal Market, Industry, Entrepreneurship and SMEs, on the CE package but also on chemicals thereby also drawing in the European Chemicals Agency. The DG for International Cooperation and Development (DG DEVCO), for one, is its key ally on the implementation of the SDG goals. Other DGs, including the DG Regional and Urban Policy; DG Agriculture and Rural Development; DG Maritime Affairs and Fisheries; DG Energy, DG Mobility and Transport; DG Research and Innovation; and DG Health and Food Safety, all represent crucial partners in helping to achieve environmental objectives at the EU level.

DG DEVCO, which is in charge of designing European international cooperation and development policy as well as to deliver aid to partner countries, has chosen to adopt a similar approach (EC, 2018d). Its thematic policies have been developed in close collaboration with other EC services to ensure a consistent approach (Interviewee #5). Three main communications were made to highlight the DG DEVCO's stand on GE. During the Rio+20 conference it was set out that a *"green economy - offers an effective way of promoting sustainable development, eradicating poverty and addressing emerging challenges and outstanding implementation gaps"* (Commission Proposal COM(2011)363). In 2011, the communication on an 'Agenda for Change in the EU Development Policy' (Commission Proposal COM(2011)637 final) highlighted that *"EU development policy should promote a 'green economy' that can generate growth, create jobs and help reduce poverty by valuing and investing in natural capital, including through supporting market opportunities for cleaner technologies, energy and resource efficiency, low-carbon development while stimulating innovation, the use of ICT, and reducing unsustainable use of natural resources"*.

In 2013, it was further stressed that the GE should be inclusive, and the benefits shared among the entire population (COM(2013)92 final). It has therefore set the stage for the EC to take the lead on creating enabling conditions to correct market failures and governance imperfections, in addition to providing the necessary incentives for economic actors to be part of the development of a GE path. In 2014, a 'Global Public Goods and Challenges Program' was set up as part of the EU's development cooperation policy (Council Regulation (EU) No 233/2014). Led by the DG DEVCO, a multi-annual programme was set up for the period of 2014-2017, with the key aim to support inclusive SD. In this regard, development has to be *"environmentally sustainable by seeking to support a transformation towards green economies and inclusive*

green growth based on the principles of efficient, effective and intra-generational use of resources, investment in and conservation of natural capital, sustainable consumption and production” (EC, 2014; Introduction). It accentuates the need for global norm-setting to address the challenges that come with globalised production-consumption systems and highlights the importance that the EU plays in sharing its experience on environmental policies for incentivising SD (Paragraph 2.3.7).

4.2 EU policy landscape applicable to the garment sector

The 2014 Environmental Indicator Report (EEA, 2014) set the stage for a perspective on the GE transition, which simultaneously addresses the global dimension of the EU’s economic activities, heavily relying on imported resources and goods. It has demonstrated that the current trade flows pose a critical challenge for European environmental governance, especially, as the related ecological pressures from these predominantly affect other parts of the world. One sector that was particularly highlighted as being accountable for a considerable share of environmental pressures and impacts of European production-consumption systems, is the garment sector. In response to these challenges, the report advocates for an integrative perspective built on the assumption that production-consumption systems are highly interdependent. In order to gain a full understanding of such systems various elements need to be investigated, including “the ways system elements interact; the impacts they generate; and the opportunities to reconfigure them” (EEA, 2014).

While the system elements of the European garment sector and their associated environmental impacts have been looked at in Chapter 3, this section will further investigate what the current European policy landscape looks like. The 2014 Environmental Indicator Report has emphasised opportunities that could fuel a better outcome for the garment industry. These are in line with the concepts propagated by academics and practitioners, outlined in the theoretical framework. These include a better **supply chain management, changes in consumption patterns, new business models for sharing and leasing clothes, or improved handling of clothes and their waste** (EEA, 2014).

Some relevant legislation and voluntary measures, which will be outlined in the following section, have already been put in place to govern the textile and garment sector in the EU. However, specific policies addressing the lifecycle environmental issues related to its production-consumption system are still quite limited.

However, building on the identified opportunities offered by the CE and SSCM solution frameworks, the EC has started to take on a, albeit limited, role, specifically advocating for the creation of a sustainable garment sector. More specifically, DG ENV and DG DEVCO have utilised the solution frameworks offered by CE and SSCM to develop initiatives aiming at increasing the sustainability of the garment sector. It is therefore important to analyse how these action plans have used the conceptual elements brought forward by academic literature. This will enable an understanding of where their conceptual elements overlap, what differences exist, and if they mutually reinforce each other, and thereby, contribute to or hinder the development of an EU governance structure that effectively addresses sustainability issues in the garment industry.

The two initiatives brought forward are the EU Garment Initiative and the ECAP and will be analysed in-depth in Section 4.3.

4.2.1 EU policies applicable to the garment sector

Most of the textile EU legislation addresses issues of safeguarding the quality of the item, by either setting standards for textiles or for the chemical analysis of fibres (Retail Forum for Sustainability, 2013). Regulation on textile fibre names and related labelling and marking of the fibre composition of textile products has aligned the laws in all Member States in order to protect consumer interests (Council Directive EU/1007/2011). Textile product containing at least 80% by weight of textile fibres need to be labelled whenever they are available on the EU market. The indication of fibre composition is therefore mandatory at all stages of the industrial processing and commercial distribution of a product.

The EU Occupational Safety and Health legislation (Directive 89/391 EEC) has introduced a number of measures that concern the safety and health of workers. The most important legislation from an environmental perspective however is the REACH¹ Regulation (Council Directive 1907/2006/EC). It aims to ensure that manufacturers, importers and downstream users work with substances that do not harm human health or the environment in addition to providing adequate information to the client on the safe use of chemicals (EC, 2014b).

The Biocides Regulation (Council Directive 528/2012/EU) further establishes the regulatory framework for the supply and use of biocidal products. The key principle established is hereby underpinned by the precautionary principle that aims to safeguard the health of humans, animals and the environment (Article 1). Treated articles can only be placed on the EU market if the active substances that they contain and were treated with are approved for use (CIRS, n.d.). Therefore, all companies that place articles, such as textile products on the EU market, must ensure that their suppliers have informed them on whether their products have been treated by biocides (Article 58). The requirements of the Biocide Regulation are stricter than the existing practices of companies, which means that they need to be cautious of their processes. This is especially true for products originating from complex supply chains where several actors are involved and located outside of the EU, and traceability is problematic. Experts in the field are arguing that in order to ensure compliance and meet the challenges of these pieces of legislation, often linked to technical, analytical, or authorisation costs, EU textile and garment businesses are increasingly faced with the need to review their supply chain communications and contracts (Bryden & Nierinck, 2014).

The Non-Financial Reporting Directive (Council Directive 2014/95/EU) imposes Member States to enforce requirements on disclosure of information on social and environmental aspects. It is perceived as a main contributor to the responsible management of garment value chains as it increases transparency and improves the information base available to consumers, investors and society at large (Commission Communication SWD(2017)147 final).

Another important piece of legislation is the Waste Framework Directive (WFD) (Council Directive 2008/98/EC) which sets the overarching legislative framework for waste policies. Compared to REACH and the Biocides Regulation, the WFD specifically refers to textiles and concretely calls for 'end-of-waste' (when waste ceases to be waste after recovery) specific criteria to be developed (Article 6). As illustrated by Milios (2016), it can be counted as one of the important pieces of legislation which has laid the ground for the CE package. It has defined a 'waste hierarchy' based on a priority order set among waste prevention and management options. These include 'prevention', 'preparation for reuse', 'recycling', 'energy recovery' and finally 'disposal' (Article 4), as can be seen in Figure 4-1. The WFD also includes the 'polluter

¹ Registration, Evaluation and Authorisation and Restriction of Chemicals

pays principle' (Article 14), which is there to ensure that the costs of prevention, control and clean-up of pollution caused are reflected in the costs of goods.

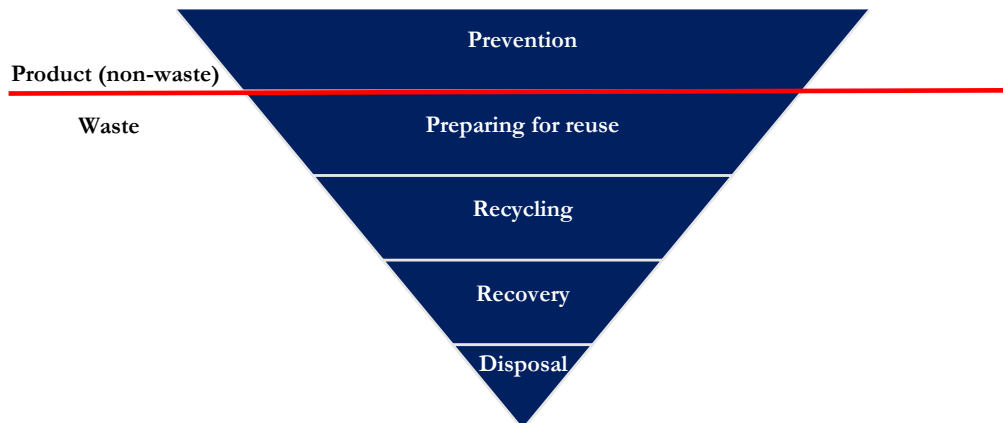


Figure 4-1 Waste hierarchy

Source: Own illustration adapted from the Waste Framework Directive (Council Directive 2008/98/EC)

In the legislative proposal adopted in 2015, as part of the CE package (2014/0201/COD), the EC has proposed ambitious recycling, preparing for reuse of municipal waste to 65%, and has limited landfilling below 10% (Commission Proposal COM(2015)594 final). In order to achieve these targets, textile waste will need to be tackled as it not only constitutes a large part of municipal waste but is also going to increase further according to various studies (GFA & BCG, 2017; Watson et al. 2018). Although there were no specific targets for textiles in the original proposal, the EP voted in March 2017 to include a requirement that Member States need to ensure that systems are in place for separate collection of discarded textiles by 2025 (Parliament Amendments (P8_TA(2017)0070)). Collection systems are crucial to enable a proper collection and preservation of the materials. In addition, the EP voted to increase household waste recycling targets to 70%, including 5% preparation for reuse. Member States are therefore required to adopt both waste management plans and waste prevention strategies, however, at present it leaves it up to them to prioritise textiles as a waste stream (Commission Communication SWD(2017)147 final).

The WFD also sets principles regarding the implementation of Extended Producer Responsibility (EPR) schemes that are important for garment collection (Council Directive 2008/98/EC). While stressing EPR as a policy approach for end-of-life vehicles, batteries and accumulators, waste electrical, and electronic goods, it does currently not mention garments as a target product group. EPR schemes entail that producers take over the financial and/or organisational responsibility to collect or take back used goods, as well as sorting and treatment of their recycling (EP, 2017b). The OECD (2016) has further outlined that EPR schemes have helped to reduce landfilling and led to increasing recycling, but at the same time have had little effects on the promotion of eco-design. Thus, the introduction of a requirement that contributions paid by producers should be adjusted by taking into account the reusability and recyclability of the product could be an effective policy tool in promoting eco-design.

The Eco-Management and Audit Scheme (EMAS) (Council Regulation (EC) No 1221/2009) is a voluntary environmental management aiming at improving SCP of businesses. It promotes continuous evaluation and improvements in the environmental performance of an organisation. It thereby builds on notions of SSCM, but can also be used as an efficient tool for the promotion of resource-efficient and leaner production, two key elements of the CE concept. The Eco-design Directive (Council Directive 2009/125/EC), while not specifically

addressing garments, offers a framework which helps to systematically integrate environmental considerations into the design process across a product's lifecycle. It is, therefore, an important contributor to the CE concept. As stated by the EC, it is an important tool in the support of its overarching priority to enhance Europe's competitiveness and economic growth (Commission Proposal COM(2016) 773 final).

Various voluntary environmental labelling schemes, helping to identify products with a proven and overall preferable environmental performance within a specific product category, provide additional instruments (GEN, n.d.). The International Organization for Standardization (ISO) has identified three broad types of voluntary labels (ISO, 2012):

- **Type I labels** are a voluntary, multiple-criteria based, third party program which awards a license that authorises the use of environmental labels on products indicating their overall environmental preferability within a particular product category based on lifecycle considerations;
- **Type II labels** include informative environmental self-declaration claims;
- **Type III labels** are voluntary programs that provide quantified environmental data of a product, under pre-set categories of parameters set by a qualified third party and based on the lifecycle assessment and verified by that or another qualified third party.

ISO 14024 Type I labels include, for example, the EU Ecolabel, which offers criteria for textiles and footwear for products placed on the EU market (EC, n.d.). Other Type I environmental labelling schemes, including the Nordic Swan (Nordic Ecolabel, n.d) or the German Blue Angel (Blue Angel, n.d.), set standards for environmentally friendly product design and promote sustainable consumption.

The EU Green Public Procurement (Commission Proposal COM(2008)0400 final) criteria for Textiles Products and Services is another voluntary instrument that helps integrating green requirements in public tender documents. Requirements can be based on specific selection criteria, technical specifications, award criteria and contract performance clauses (Dodd & De Oliveira Gama Caldas, 2017). This has the advantage that decisions on large-scale public purchasing can provide a balance between environmental performance and other necessary criteria such as costs or market availability. It can stimulate an important amount of demand for more sustainably produced garments, as has been shown in a study of hospital gowns in Denmark, that has put a high accent on the importance in the choices of durable fibres, and colours with a good tolerance towards laundry and use towards patients and staff (Watson & Fisher-Bogason, 2017).

Pilots have also been established with regard to testing the process to develop a Product Environmental Footprint methodology that could help in assessing the environmental lifecycle performance of a product (EC, 2017a). It addresses, more specifically, leather, footwear and t-shirts among other product categories (Retail Forum for Sustainability, 2013). Another pilot project has been implemented in order to assess the Organisation Environmental footprint, and more specifically the retail sector (EC & JRC, 2012). It offers a multi-criteria measure of the environmental performance of organisations providing goods or services from a lifecycle perspective. It aims at reducing the environmental impact associated with organisational activities by taking into account the entire supply chain activities. These are efforts undertaken as part of the adoption of the Communication Building the Single Market for Green Products (Commission Proposal COM/2013/0196 final) and of the Commission Recommendation on the use of common methods to measure and communicate the lifecycle environmental performance of products and organisations (Commission Recommendation 2013/179/EU).

Environmental policy intervention can focus on both the supply and demand of garments. However, looking at the different policies applicable to the garment sector, it becomes clear that a broader EU policy framework regulating environmental lifecycle impacts is rather limited.

Most policies target the prevention of health and environmental impacts in Europe by limiting substances to be used during the manufacturing stage. Cleaner production initiatives, such as those promoted under the EMAS voluntary instrument, have had a strong impact on the industry (JRC, 2014). Other more product-targeted measures include the Eco-design Directive, which has become a key strategy in European environmental policy making (JRC, 2014).

Various other instruments that offer solutions to ‘greening’ the garment sector exist. One of them is to be found in the pilots undertaken by the EC, including the Product Environmental Footprint and Organisation Environmental footprint. Those, however, are still in the early development stage and do not focus specifically on the garment industry, which has its very own characteristics. Information-based instruments, such as labels, have been established to help stimulating sustainable consumer behaviour. Policies addressing environmental impacts arising during the transportation, distribution and consumption stages however are still in their early stages.

The global nature of the garment production-consumption system has been addressed through a number of policies, such as REACH, which have further had implications for responsible business conduct. Mostly of voluntary nature, the need for responsible business conduct has been further highlighted by the recently introduced Non-Financial Directive, whose impacts are not known yet. However, when looking at the number of companies that the Directive targets (Council Directive 2014/95/EU, Article 19a, paragraph 1) it becomes clear that most of the companies acting in the garment industry do not fall under the criteria selection for the legislation. While only companies with over 500 employees need to disclose, the Council succeeded in reducing the overall regulatory burden at the EU and national levels for SMEs under the ‘think small first’ principle (Council Directive 2014/95/EU, Introduction, paragraph 13). The decision of disclosure requirements that only apply to large companies has also been influenced by the Europe 2020 strategy (Commission Proposal COM(2010)2020 final), which aims to enhance the business environment for SMEs and to promote their internationalisation.

A legislative basis has been set for the principles propagated by the SSCM and CE concepts through the Non-Financial Reporting Directive (Council Directive 2014/95/EU) and the CE package (2014/0201/COD) respectively. Their conceptual elements and priority themes that their solution framework have been built on can be found in a number of existing environmental policies at the EU level. These all act as a sign of willingness to address the paradigm that has contributed to the growing environmental issues caused by the garment industry, namely the short production-consumption cycles, the wasteful nature of the linear economy, the lack of responsible business conduct.

4.3 Framing of solutions for a sustainable garment industry

While a legislative framework, although limited, exists, critics argue that it is not far reaching enough as there is no specific legislation that addresses some of the environmental lifecycle issues caused by the garment sector (Parliament Resolution (2016/2140(INI))). Nonetheless, a number of initiatives have started to pick up on the increased awareness that these have received in recent years.

Section 3.3 has highlighted the characterisation of sustainable garments and a respective governance structure within academic literature. It has further given a snapshot of some of the resulting initiatives undertaken by industry practitioners that have been influenced by some of the notions of the CE and SSCM concepts propagated by academic thought. When analysing the framing of solutions to the pressing environmental issues that are the product of the present economic system, it can be noted that they are most commonly in line with the GE theory. As outlined in Section 4.1, the EC has utilised GE theory because it promises a framework enabling to reach a transition towards an economic model that is in line with planetary boundaries. The resulting policy discourse has further laid the foundation for the CE and SSCM sustainability strategies to arise and be chosen as suitable concepts to address the environmental challenges of the garment sector.

A variety of stakeholders, such as industry associations, NGOs, think tanks and others, have played their part in influencing the policy discourse around governing the garment sector in order to make it more sustainable. Depending on the stakeholder's view, either regulation or market-based instruments can be perceived as the best way to help mitigate environmental impacts arising from the various lifecycle stages of a garment (JRC, 2014). Others see voluntary measures or industry initiatives as the way forward (EMF, 2015; Euratex, 2016c).

A specific focus has been put on the sustainability issues arising in the garment sector, reflected by the creation of initiatives undertaken at the EU level. These have underlined the political acknowledgement of the urgency and will to act. The next sections will outline in detail how the political discussions have shaped the development of the two chosen initiatives. These include the **EU Garment Initiative** and the **ECAP**, led and funded by DG DEVCO and DG ENV respectively. Furthermore, they will be analysed with regard to the conceptual framework outlined in Section 3.4 in order to examine how the concepts of CE and SSCM have been used to inform their strategic orientation in addressing sustainability issues of the garment sector.

4.3.1 The EU Garment Initiative

In 2014, informal consultations by the EC with Member States started with regard to the creation of an **EU Flagship Initiative for the garment**, the so-called **EU Garment initiative** (Parliament Resolution (2016/2140(INI))). A questionnaire was sent out, which was answered by 55 organisations, mostly from the private sector, which was then evaluated by the EC. This resulted in an understanding that all stakeholders were supportive of an EU Garment Initiative (EC, 2015a). Stakeholders suggested a stronger focus, complementary with existing initiatives to avoid duplication (Interviewee #8). Funding and capacity building were further highlighted as necessary actions, while 'transparency', the protection of 'standards' in producing countries, and rules for 'due diligence' were outlined as most valuable for the long term.

In 2015, a speech given by Cecilia Malmström (Commissioner for Trade) set the tone for responsible supply chains. These should ensure that consumer choices made in the EU "*do not undermine human rights, labour rights, the protection of the environment and economic opportunity*" (EC, 2015c). She sees the most obvious challenge for the EU in the fact that most activities occur outside of European borders, thus hindering the EU to introduce or enforce rules on sustainability issues applicable to another country. Thus, a so-called 'indirect route' needs to be adopted, which, because of the current complexity of supply chains, is just as challenging. A deep understanding of individual value chains is required in order to target efforts effectively. Another challenge lays in the unintended consequences that can arise through stronger legislation, for example, reporting requirements that push companies to abandon sourcing from specific countries. This, in turn, has important economic consequences for the various communities often dependent on the jobs created through these supply chains. Solutions that

encompass these concerns and are based on a ‘long-term’, ‘collaborative’ and ‘integrative’ policy mix, are therefore crucial.

Signalling the urgency to act, a number of resolutions were adopted by the EP. These include the 2015 resolution on the second anniversary of the Rana Plaza building collapse (Parliament Motion (2015/2589(RSP))). In November 2016, the EP’s Committee on International Trade organised a mission to Bangladesh to assess the progress made in the implementation of the Sustainability Compact. The mission undertaken by Members of the EP confirmed that value-based EU trade policy triggers progress in changing export-oriented sectors towards improving working conditions (EP, 2017a). Launched in 2013 by the EU, the **Sustainability Compact for Bangladesh** brought together various stakeholders, including the government of Bangladesh, the United States, Canada and the ILO (ILO, n.d.). It aims at improving labour rights, health and safety at work as well as responsible business conduct in the export driven garment industry.

This multi-stakeholder approach fits the appeal of the ‘European Consensus on Development’ (Council Joint Statement 2017/C 210/01) adopted in June 2017. It sets out the EU’s global vision by highlighting the important role of the SDGs, which will be a cross-cutting dimension in all of the European development work. Under its framework for action, it has dedicated a specific section (2.2) on ‘Protecting the environment, managing natural resources and tackling climate change’. Innovation, technologies and collaboration are thereby highlighted as mechanisms to achieve ‘green growth’ and an economy in line with planetary boundaries. As found in the excerpt below, it clearly outlines key conceptual elements propagated by the CE and SSCM concepts, namely ‘resource efficiency’, ‘SCP’, ‘sustainable waste and chemical management and ‘due diligence’ in order to achieve a transition towards a GE:

“environmental considerations need to be integrated across all sectors of development cooperation, including through preventive action. The EU and its Member States will promote resource efficiency and sustainable consumption and production, including the sustainable management of chemicals and waste, with a view to decoupling economic growth from environmental degradation and enabling the transition to a circular economy. A responsible private sector and the systematic application of the ‘polluter pays’ principle will also be critical to success. They will help to build capacity to mainstream environmental sustainability, climate change objectives and the pursuit of the green growth into national and local development strategies.” (Part 2, paragraph 2(43)).

The multi-stakeholder approach has also been accentuated by the ‘Council Conclusion on the EU and Global Value Chains (Council Conclusion 8833/16). In its introduction, it highlights the Council’s acknowledgment that global value chains’ complex role in global production patterns calls for *“proactive engagement in the EU and abroad to ensure their adequate management for inclusive and sustainable growth”*. It further stresses that *“this issue is of particular relevance in a development context, as developing countries often face significant challenges in terms of sustainable development and growth for the most vulnerable.”*

However, while most measures are currently on a voluntary basis, the efforts of the EU have expanded. These cumulated in a first policy proposition specifically targeting the sustainability issues of the garment industry in 2016 (Parliament Resolution (2016/2140(INI))). On the 25th of April 2017, the EC hosted a high-level conference on responsible supply chain management in the garment sector by bringing together various stakeholders. A Commission Staff Working Document (SWD) was also published during that time, outlining development cooperation as an effective tool to encourage private companies and governments in third countries to fulfil their sustainability commitments (Commission Communication SWD(2017)147 final). While

the document refrains from the 'flagship initiative' title, it chooses to focus instead on the idea of a 'EU development action plan for sustainable garment value chains'. This document proposes various thematic priorities and intervention areas to help maximise the benefits of EU garment-related development cooperation activities. It lays out various measures such as dialogue, capacity-building, awareness-raising, and technical assistance to support the implementation of trade and other bilateral agreements (EP, 2018).

A background analysis commissioned by the EC in December 2016 was carried out with respect to engagement in the garment sector to support sustainability (AETS, 2016). Its aim was to assist the EC in identifying its potential focus and action areas where value can be added at the EU level. The report has illustrated that most of the existing initiatives have focussed on core labour issues, which have gained even more awareness since the Rena Plaza incident. It underlines that there are very few initiatives that actually focus on environmental issues in the garment sector, as social issues might have seemed more of a pressing issue for EU consumers, civil society organisations and campaign groups. The report however highlights that the environmental impacts stemming from the nature of the garment sector's processes is very large and needs to be addressed. Indirect impacts of this production-consumption system are even worse due to its wasteful nature of fast fashion and its logistical arrangements. Opportunities linked to the SDGs to make supply chains more responsible were outlined. These included *Political and business environment and infrastructure (SDGs 11 and 16); Workers' rights (decent work and living wages) for garment industry workers (SDG 8 and 9), Gender equality and the economic empowerment of women in the garment sector (SDG 5); Transparency and traceability in the supply chain (SDGs 12 and 17) and Environmental sustainability and access to clean energy (SDG 7, 13 and 11).*

The SWD presents an overview of the complex garment sector and its sustainability challenges. However, the choice was made to pursue three thematic priorities, including *Women's economic empowerment; Decent work and living wages; and Transparency and traceability in the value chain;* without adopting a specific thematic priority on environmental issues (Commission Communication SWD(2017)147 final). It clearly states that it perceives the issue around transparency as most important due to the fragmented production and widespread practices of subcontracting of the sector. To this end, the EC has decided to focus on development cooperation, financial support and the promotion of social and environmental best practices to improve sustainable business conduct. Under the 'Global Public Goods and Challenges Program' a number of activities relevant to the garment sector have been set up of a total value of €45 million. These include (Commission Communication SWD(2017)147 final):

- €16.5 million project on “**Promoting responsible value chains in the garment sector**” with a focus on decent work, and transparency and traceability;
- €10 million project on “**Strengthening fashion value chains and boost job creation**” in Burkina Faso and Mali targeting SD of micro suppliers and small entrepreneurs in selected garment value chains;
- €12.6 million project funded through the Asia Development Cooperation Instrument regional envelope aiming at the promotion of compliance with and reporting on “**International Labour and Environmental Standards in Pakistan's SMEs**”
- €6.6 million grant from the EU Development Cooperation Instrument for the programme on “**Finance Safety Retrofits and Environmental upgrades in the Bangladeshi Ready-Made Garment (RMG) Sector**”

On the 27th of April 2017, the EP adopted an own-initiative report requesting the EC to go a step further and start a legislative proposal that would prevent any social or environmental abuses by EU based companies (Parliament Resolution (2016/2140(INI))). The EP, backed

by a number of Member States and other stakeholders, further criticised that voluntary measures were not far reaching enough to address human rights violations in the sector. This view was further shared by a number of organisations (The Circle, 2017). As highlighted by interviewees #3 and #6, the garment supply chains are very complex and involve many actors, which is why due diligence in the whole value chain is important. However, they criticise the EU Garment Initiative for not being well developed yet and that most agreements only focus on one country.

The EC, however, rejected the call for a binding legislation on due diligence for supply chains in the garment sector on the base that it does not represent a priority at present. As a reason, it indicates that the Non-financial reporting Directive (Council Directive 2014/95/EU) has already set measures targeting the industry and its impacts are not known yet (EP, 2018). Furthermore, it is difficult to lobby for a more stringent legislative framework when the EC does not perceive it as a priority issue (Interviewee #1; Interviewee #2). So far, only one Member State, namely France, has taken the lead by adopting a law on duty of vigilance in March 2017. It targets any French company that counts more than 5000 employees or 10,000 if their subsidiaries are included. These companies are required to assess and prevent any negative impact on the environment and human rights that their activities and those of their subsidiaries might cause. Failure to comply with this obligation makes companies responsible to pay a compensation. While a number of civil society organisations see this law as a model for EU wide legislation it has some shortcomings. This law is also constrained to multinationals, which according to the Pulse of Fashion report (2017) have already taken on the role in addressing sustainability issues of their supply chains but often lack effectiveness in dealing with the challenges because of the highly fragmented production networks.

The EC's argumentation was further backed by the Council, which also favours voluntary approaches. While it encouraged the EC to enhance implementation of due diligence measures it did not envisage any legislative proposal (10254/16). It refers to the already existing frameworks offered by the **UN Guiding Principles** (UNHRC, 2011), **OECD Due Diligence Guidance for Responsible Supply Chains in the Garment and Footwear Sector** (OECD, 2018) and **ILO Tripartite Declaration on Multinational Enterprises and Social Policy** (ILO, 2017). Furthermore, it acknowledges the importance of the **UN Global Compact** (UNGC, 2015) and **ISO 26000 Guidance on Social Responsibility** (ISO, 2010) in setting standards that can guide the garment sector. However, in its Conclusion on Sustainable Garment Value Chains (9381/17) adopted shortly after the EP resolution it called on the EC to adopt an approach that goes beyond development cooperation. It highlights the need for synergies with environmental and labour policies as well as trade tools but still does not mention any binding obligations.

In essence, the EU Garment Initiative has been a first political acknowledgement that the current modus operandi of the garment industry calls for more responsible business conduct. Strongly built on the sustainable strategy offered by the SSCM concept, it has developed towards focussing mainly on development cooperation with third countries, thereby, on one hand addressing the globalised nature of the garment production-consumption system, while on the other hand not going as far as to put in place a framework aiming to increase sustainability in the garment sector. This has been strongly criticised, as fundamental rights and environmental protection are being abused for the sake of competitive advantage (Interviewee #6). In order to prevent a race to the bottom in terms of standards, regulatory interventions are necessary to tackle the current conditions that the garment industry is exploiting (Interviewee #5).

While progress has been made through the Sustainability Compact for Bangladesh, a number of broader policy tools have been used so far, primarily aiming to support human and labour rights, and environmental protection. These comprise the inclusion of chapters guided by SD principles in EU free trade agreements undertaken with third party countries. For example, in these the environmental dimension can be covered by specific rules on preserving biodiversity. However, it is argued that these chapters need to be more specific and include certain distinct focus on environmental issues (Interviewee #6).

The resolution put forward by the EP confirmed their political will to push this issue forward (Parliament Resolution (2016/2140(INI)). It argues that *“voluntary initiatives led by the private sector over the last 20 years, such as codes of conduct, labels, self-assessments and social audits, while having provided relevant frameworks for cooperation on issues such as health and safety at work, have not proven to be effective enough in bringing about a real improvement in (...) environmental standards and safety and sustainability in the garment supply chain”* (paragraph Q). It acknowledges the efforts undertaken by the multi-stakeholder initiatives in Germany and the Netherlands, while also highlighting that these have not been established in the majority of Member States. However, the current accumulation of numerous initiatives could result in an unpredictable situation where companies need to deal with a variety of challenges. The EC therefore needs to act and put in place an umbrella initiative that enforces certain rules on due diligence, promotes sustainability, transparency and traceability in supply chains, as well as enhances sustainable consumption (Interviewee #2; Interviewee #7). Euratex, the industry association for EU textile and garment businesses, counter argues in its position paper that voluntary actions are better than mandatory, as they enable companies to act where it really matters in the different steps of the value chain based on the business model, company size and capabilities (Euratex, 2016c). On the other hand, it argues for the creation of a level playing field, which does not seem to be attainable without any legislative effort at present.

The EP's resolution further highlights that it does not perceive trends to move towards any other paradigm than the one propagated by fast fashion at present (Parliament Resolution (2016/2140(INI)). In addition, practices of high volumes and low prices further reigned by short term buyer-supplier relationships are conducive to reducing traceability and transparency in the supply chain. These increase risks for environmental degradation. It therefore called for a number of elements to be considered and included in the EU Garment Initiative. While these are heavily centred on social issues, namely 'human rights', 'social conditions', 'labour rights', they also include environmental issues, such as the active promotion of sustainably sourced raw materials. It concretely mentions the notion of 'recycling' of garments but most elements propagated stem from the SSCM concept.

4.3.2 The European Clothing Action Plan (ECAP)

At present, production and consumption of garments is dominated by a linear economic model that not only relies on large amounts of cheap and easily accessible natural resources. An opportunity to reduce demands for material resources and environmental pressures can therefore be seen in the solution framework offered by the CE concept. In this circular system, unwanted garments are re-circulated to new users and worn out items used for their material content in new products (EMF, 2013). In many parts of Europe, a CE for garments has already existed through the activities of charities and private textile collectors and traders (Watson, et al., 2018). However, even in countries that have successful collection practices, such as Germany, much of the reusable and most of the non-reusable clothing ends up in mixed waste, therefore, representing a loss in value (GFA & BCG, 2017; EEA, 2014).

Recently, policy makers at the EU level have started to attempt to tackle these issues as part of the larger CE agenda (Watson, et al., 2018). One of these attempts is the recent policy initiative created in 2015, the so-called **European Clothing Action Plan (ECAP)**. This EU LIFE funded initiative is the only one that addresses clothing sustainability (ECAP, 2016a). It aims at reducing clothing waste across Europe and embedding a CE approach to address the sustainability of garments. Objectives are manifold and include the diversion of over 90,000 tonnes/year of discarded clothing from landfill or incineration, as well as the reduction of the carbon and water footprint of EU clothing (ECAP, 2016a). It is said to deliver business and environmental benefits through the reduction of the carbon, water and waste footprint of garments. Moreover, the ECAP also supports collaborative action with Asian partner countries, including China, Hong Kong and Bangladesh.

The UK-based organisation WRAP is the project coordinator and manages the development of ECAP's framework, including governance, reporting, delivery and evaluation. The initiative is based on the UK-only scheme entitled Sustainable Clothing Action Plan (SCAP) launched in 2013 but scaled up to a European level (EC, n.d.). To date, the ECAP has been joined by eleven countries, including the UK, Denmark, Finland, Germany, Italy, Netherlands, Norway, Poland, Romania, Spain and Sweden (EC, n.d.). While a number of companies have joined the ECAP, there is consensus that better practices need to be implemented along the entire supply chain in order to increase the sustainability of the garment industry.

Adopting a collaborative approach, ECAP brings together a number of agencies across the EU to strengthen its initiative (EC, n.d.). The multi-stakeholder approach includes members such as sustainable fashion non-profit Made-by, the Danish Fashion Institute, the London Waste and Recycling Board, and Rijkswaterstaat linked to the Dutch Ministry of Environment. Over its three-and-a-half-year lifetime, which will end in March 2019, ECAP's mission is to encourage positive change along the garment supply chain from design to end-of-life with the help of a CE and resource efficient approach (ECAP, 2016a). It recognises the rise of fast fashion, consumerism and the linear throwaway culture as the main concerns. In addition, the intensive amount of water, chemicals and energy used during the production and transportation phases means that the garment industry is contributing to the burden placed on the environment. While it has a strong focus on embedding a CE approach into the European provision, access and consumption of garments, it states that it also delivers actions that further support the UN SDGs and the OECD agenda (ECAP, 2016a).

Funded by the EC with €3.6 million, LIFE is the only EU financial instrument that is dedicated exclusively to the environment (EC, 2016c). Managed by the DG ENV, it supports relatively small-scale projects, which catalyse broader actions and have both the potential and capacity for replicability in order to lead to marketable solutions. ECAP encompasses various elements of the CE concept such as **'sustainable design', 'SCP', 'public procurement', 'collection, recycling and reprocessing'**. However, it specifically focuses on garment supply chains in order to reduce clothing waste and increase waste recovery (ECAP, 2016a). There are strong synergies with the EC's CE Package, but it also overlaps with the EU Garment Initiative, and other action plans led by national governments and industry associations (EC, n.d.).

While the CE package does not specifically address sustainability issues within the garment sector it highlights the strategic orientation of European policy making. The ECAP initiative for example highlights the EC's orientation towards CE as a solution framework for the garment sector. Not only does it address some of the most important lifecycle stages when it comes to environmental degradation and pollution, but it also seeks to offer opportunities to

convert these negative externalities into corporate benefits. Collaboration, measuring and sharing best practices are hereby underlined as key elements to generate value for businesses.

The ECAP is built on 8 action areas which include, each acting as a building block to deliver the transition towards a CE (ECAP, n.d.a):

- **Design for longevity and lower impact:** introduction of an online platform to help designers and product development teams to extend the life of clothing;
- **Retailers & brands action plans:** developing and implementing sustainable fibre strategies for 50 brands and retailers with headquarters in the EU;
- **Supply chain action plans:** support of 10 European and 10 Asian based clothing suppliers to cut the environmental impact of their production processes (support in creating a **digitally enhanced CE**);
- **Public procurement action:** collaborate on developing a green circular Public Procurement Strategy for workwear;
- **Consumers:** roll out the 'Love Your Clothes' UK campaign across Europe to change consumer behaviour with regards to clothes;
- **Young consumers:** reaching out to young consumers (16-24 years) to influence them to develop more sustainable buying habits;
- **Fibre 2 fibre (f2f) recovery:** set up of pilots with 9 brands to develop clothes with recycled fibre content and increase their market share in garments;
- **Increasing clothing recovery rates:** guide 6 forward-thinking European cities in developing pilots to increase clothing recovery and recycling rates.

The range of action fields covers a number of the key thematic priorities put forward by the CE concept. The CE concept is not a new concept, but it has only recently become relevant in the garment industry. It however also includes a number of conceptual elements that are based on considerations regarding SSCM practices. These have been highlighted through the ECAP initiative, which demonstrates that SSCM considerations are needed if a CE approach is to be developed in the European garment sector. The ECAP **supply chain action plan** further addresses the globalised nature of the garment industry by underlining its collaboration with Asian partner countries with regards to supporting the move towards a CE. This action plan is led by Made-by in and focusses on engaging European-based brands, retailers and their suppliers to work together to better understand current industry practices in the management of production leftovers (ECAP, n.d.b.). This will enable these actors to take advantage of the opportunity to measure, track and re-use waste material by re-integrating it into their supply chains. It is strongly underlined that this can not only result in economic gains, but also enhanced supply chain transparency and environmental improvements.

Another interesting fact is that 2 out of the 8 action plans target consumer behaviour. Based on the **Love your clothes campaign** initiated by WRAP in the UK in 2014, these campaigns have been upgraded to the European level. In a partnership approach they bring together a number of stakeholders such as retailers, brands, charities, local authorities and others in order to reach out to consumers. The London-based **Young consumers** campaign is targeted at the fast fashion generation of young costumers between the age of 16-14 years, and includes a series of events to motivate them to share their knowledge and skills of reuse, care and disposal of garments (ECAP, 2016b). It represents an important effort in challenging the linear and fast fashion paradigm and to enable a shift in consumption behaviour that is more in line with planetary boundaries.

Based on the closed loop idea, the **fibre to fibre initiative** includes nine innovative pilots with fashion brands or work wear companies that are engaging in the recycling of post-consumer textiles to turn them into new garments (ECAP, 2016c). Recycled fibres reduce the use of virgin materials and enable brands to lead their supply chains into a more innovative activity. The ultimate aim of this action agenda is to introduce recycled fibres into entirely new sustainable clothing collections, thereby increasing the supply of sustainable garments available, and to develop strategies on resource efficiency in the supply chain. Closely linked to this is the action plan on **increasing clothing recovery rates**, which aims at stimulating the thinking around the collection of textiles for re-use or as resource for new garments (ECAP, 2016d). The action plan therefore works closely with municipalities and local stakeholder to find best ways to organise the collection of textiles across the EU. This further contributes to reaching the textile recovery rates that are part of meeting the household waste recycling targets set by the EC's CE package (Commission Proposal COM(2015)614 final).

The **retailers & brands action plan** further targets 30 European fashion brands and retailers to support the development and implementation of sustainable fibre strategies (ECAP, 2016e). Switching to more sustainable fibres can have a significant impact on the environmental footprint of garments, thereby reducing carbon, water and waste impacts.

Led by the Danish Fashion Institute, the **design for longevity and lower impact** action plan works towards creating a platform that will raise awareness, inspire and enable designers and product developer to improve the extended life of garments through design practices in order to support the transition towards a CE (ECAP, 2016f). It will further enable the industry to make more informed decisions during the design phase of garments in order to influence sector and consumer practices. Rijkswaterstaat has also put in place an action plan on **public procurement action** which aims at helping public procurers to reach environmental goals by using their buying power and in turn stimulate a CE approach in work wear (EC, 2016g). One example of the project was the Dutch Ministry of Defence, which signed a contract for 100,000 towels and 53,000 overalls that were made with 36% and 14% recycled post-consumer textiles respectively. Sustainable work wear has therefore been highlighted as an action area where public agencies can set an example of promoting the transition towards a CE.

The ECAP's action plans cover a wide range of the conceptual elements brought forward by the CE concept, and not only try to engage with a wide range of society, but also with all actors along the supply chain. Interestingly, Euratex's position paper on 'prospering in the Circular economy' (Euratex, 2017) highlights a number of recommendations that it deems to be important to enable the transition towards a CE in the European garment industry. These include the setting of 'clear end-of-waste criteria for textiles', at the same time as 'stimulating collection and demand for recycled textile materials through partnerships rather than forced schemes'. It also highlights the need for 'cost-effective Green Public Procurement', 'the investment in textile waste management to overcome technological challenges and lowering the cost of textile waste management to de-incentivise landfill and incineration'. It thereby clearly highlights its wish for voluntary measures supported by market mechanisms as it sees these to be most efficient in moving the transition to a CE forward. In its last point it accentuates that sustainable consumer behaviour needs to be further promoted and claims that: "*European and global consumers will ultimately reward the efforts made by the business and policy makers by choosing better products and by making the Circular Economy really sustainable*" (Euratex, 2017, p.5). However, Euratex leaves open as to how to achieve such consumer behaviour changes.

4.3.3 Cross-cutting analysis of EU initiatives

The last two sections have outlined in detail the two initiatives undertaken at the EU level. These are both based on a multi-stakeholder approach which includes a number of actors that have decided to come together to work towards a common goal. While the EU Garment Initiative is being stirred by the DG DEVCO, the ECAP is under the lead of the UK's WRAP but funded through the EC's LIFE mechanism. While both initiatives have been informed by conceptual elements of the solution frameworks offered by the CE and SSCM, their focus is rather devoted to one concept.

The EU Garment Initiative, as it stands at present, has been developed to frame issues under an angle of 'EU development action for sustainable garment value chains'. Adopting a strong focus on development cooperation and financial support, it embraces some of the SSCM main thematic priorities. Firstly, it has highlighted its important role in making supply chains more responsible. It is built on three thematic priorities, including the enhancement of women's economic empowerment, decent working conditions and living wages, as well as transparency and traceability in value chains (Commission Communication SWD(2017)147 final). It, therefore, addresses major social issues and underlines that transparency is the most important aspect to tackle due to the fragmented and dispersed nature of supply chains in the garment industry. It merely addresses environmental issues through the promotion of best practices to improve sustainable business conduct. Diplomacy efforts are hereby propagated as the best form to engage with the governments of producing countries to promote better industry standards and help businesses meet compliance of these.

The ECAP initiative has highlighted the important role that a number of stakeholders can have when joining forces in order to implement action plans that move a specific cause forward. While these actors have already been active in the CE field for many years, they also bring the knowledge and expertise that the EC's DGs might be lacking. While the ECAP is strongly focused on the solution framework offered by the CE concept, its multiple action plans actually highlight the various thematic priorities needed in order to ensure the transition towards a CE. These include design for longevity and lower impact, the development of sustainable fibre strategies, the reduction of environmental impacts in production processes of retailers and brands, public procurement action, consumer awareness raising, fibre recovery and the increase of clothing recycling rates in general. The plans reflect a range of actions that cover the spectrum of solutions as to how to increase the value of a garment to its greatest extent. The ECAP therefore highlights the significant environmental savings that can be gained from a CE, at the same time as offering a snapshot of actions that can be used to create a competitive advantage. It further reflects an acknowledgement of the globalised nature of the garments' production-consumption system and underlines SCM as an important aspect in reaching the goal of a CE. While it focusses primarily on environmental issues, it, however, focuses little on the social dimension, which is a major part of the sustainability challenges faced by the garment industry.

5 Discussion and Recommendations

The following chapter will discuss the findings and further establish the relationship between the theoretical framework, outlined in Chapter 3, and the specific policy initiatives undertaken at the EU level. This is a crucial step for the research as it will enable to outline recommendations for the development of coherent policy measures aiming to enhance sustainability of the garment sector based on the solutions offered by the CE and SSCM concepts.

5.1 The need for an EU sustainable garment governance model

The garment industry has a responsibility to improve its environmental performance. As one of the largest industries it has a vital interest in securing a prosperous and sustainable future. Environmental impacts are enormous and continuously growing, which is why they will need to be addressed effectively. As highlighted by the latest Fashion Pulse report (GFA & BCG, 2018) almost one third of the fashion industry still needs to take action. Collaboration and clear commitments by the industry, supported by policies, need to prioritise a responsible long-term strategy despite the short-term pressure of financial results.

Chapter 3 has shown that the sustainability issues of the garment sector are being addressed by a number of public and private initiatives in the EU. Most of these initiatives, outlined in more detail in Section 3.3.3, have established methodologies or standards build on the SSCM notions, while the CE concept has only been picked up very recently. However, the existing initiatives are often much more focused on the social dimension of the sustainability concept. Having gained in popularity and increased advocacy by NGOs and the industry, the CE concept however, offers a solution framework that addresses the environmental challenges of the garment industry. It has been propagated by the industry and other stakeholders as it offers a solution framework that promises resource security in addition to an increased competitive advantage for EU businesses. In essence, the initiatives illustrate the recognition that the CE and SSCM solution frameworks have received within the garment sector. Not only are they influencing the current debate on how to govern sustainability within the garment sector, but they also offer a variety of solutions. Nonetheless, while awareness around major environmental issues of the garment industry has risen, the incentives for fashion brands and multinationals to assume their part in reducing the impact arising from their production processes will need to be further enhanced (Richero & Ferrigno, 2016).

Chapter 4 has been able to demonstrate how the GE concept has been utilised by policy makers at the EU level to guide environmental policy making for the coming decades. The GE theory offers a theoretical framework enabling a reconciliation of the environment and the economy, thereby, challenging the old economic paradigm. CE and SSCM can, therefore, be categorised as sustainability strategies that are in alignment with the GE concept and have gained in influence due to the strong environmental policy discourse at the EU level. They not only offer solution frameworks to the pressing sustainability issues of the garment industry but also bring together various public policy interventions that can support systemic change towards a more sustainable garment production-consumption system. What has become apparent is that numerous conceptual elements propagated by the CE and SSCM solution frameworks have already been part of European environmental policy making for several decades and have had some effect on the garment industry (JRC, 2014). Nevertheless, the efforts undertaken have not been sufficient enough to challenge the modus operandi of the garment sector. Recent events like the Rena Plaza incident, however, have increased the attention attributed to the sustainability issues connected to the garment industry, which is now, more than ever, undergoing strong public scrutiny.

5.2 Recommendations for policy makers

A broad consensus has established itself around the fact that a transformation of the current production-consumption system of the garment industry is urgently required if the long-term prosperity of the sector is to be ensured. While signs of movement in that direction are apparent, as evidenced by the various initiatives and policies put in place to govern the garment industry, the promotion of a truly sustainable garment industry is still falling short compared to what is required at present. A number of stakeholders argue that, in order to effectively and equitably transition towards a sustainable garment industry, efforts will be needed that go deeper and faster than voluntary measures and market mechanisms allow.

One of the key forces capable of accelerating such a transition remains the state. By credibly committing to a sustainable garment industry, the state has the capability to unite other social forces to the cause, such as civil society organisations, industry or financial organisations. An example for this commitment can be found in the recent French Corporate Duty of Vigilance Law adopted in 2017, although currently also representing an exception.

5.2.1 Priority setting on the European political agenda

The EU Garment Initiative and ECAP show first signs of acknowledgement of the urgency to act at the EU policy making level. While both initiatives indicate a potential for a successful advance towards a more sustainable garment industry model, they will need to be further strengthened. The EU Garment initiative still has not been translated into a concrete action plan and has even been downgraded by the EC from a Flagship initiative to a mere development action plan for sustainable garment value chains. The ECAP on the other hand is already showing examples of concrete implementation of a CE in the garment industry. However, the initiative will end by 2019 and it is left to be answered if the initiative will be continued or even expanded to include more Member States at the EU level and an increased transnational cooperation with exporting countries in Asia.

EU initiatives have the potential to allow 500 million customers to gain easier access to products aligned with sustainability criteria, such as better working conditions or less environmental damage (Van Seters, 2018). Joining forces at the EU level can also provide more leverage to influence suppliers to improve production practices and encourage governments in the producing countries to set the right conditions. Even more, at the European level an extensive level playing field can be created that avoids a comparative advantage for companies from Member States that are not in line with sustainability requirements. The EU institutions are therefore best placed to promote and facilitate a sustainable garment governance framework (Jastram & Schneider, 2015; Parliament Resolution (2016/2140(INI)). They can share the lessons of national initiatives and support new ones in Member States. However, critics argue that a 'wait and see' approach, such as propagated by the EC could be beneficial. Especially, since it is too early to assess the effectiveness of recent national and European initiatives undertaken. Furthermore, most companies have only started to commit to sustainability requirements, which means that their efforts will need to be evaluated over the coming years (Van Seters, 2018). However, some initiatives have already been criticised for their lack of enforcement mechanisms and transparency. A stronger discourse on a sustainable garment governance model needs to be fuelled which further outlines the need for a transition and the benefits for the industry attached to it.

Another issue tied to the policy making at the EU level is that the initiatives seem to relate to the domain of different DGs of the EC. This makes leadership, ownership and coordination even more difficult. While a number of DGs already contribute towards a sustainable garment

sector, for example through the DG ENV's 'Product Environmental Footprint pilot' or the DG DEVCO's project on 'Promoting responsible value chains in the garment sector', a coherent and ambitious Commission-wide approach is still lacking to date. A 'whole-of-government' approach could therefore facilitate the cooperation between the different DGs and would enable EU efforts that go beyond development cooperation when tackling sustainability in the garment industry (Van Seters, 2018). Such as propagated by the 7th EAP (Commission Decision 1386/2013/EU) interlinkages between the different agendas will need to be addressed. This entails for example that the DG DEVCO's initiative on a 'development action plan for sustainable garment value chains' should not only offer more clarity on long term goals but also its interlinkages with other agendas such as the one on biodiversity. This could also include, for example that the SCP policy area encompasses natural resources and biodiversity related criteria in the Eco Design Directive (Council Directive 2009/125/EC) and Sustainable Industrial Policy (Commission Proposal COM(2008)0397 final).

It is also important for the EC to define 'a sustainable garment industry' in order to find a common and harmonised understanding of the term that does not leave room for misinterpretation. This will also be a crucial step in defining criteria for sustainability measures targeted at the garment industry and perhaps help to set concrete targets in the future, for example for textile waste reductions or EPR schemes.

5.2.2 Addressing all environmental lifecycle impacts

As the call for an urgent paradigm shift has been voiced by numerous stakeholders, the EU has responded to this challenge by offering solutions that build up on the GE, CE and SSCM concepts. However, looking more closely at the conceptual elements of the SSCM and CE concepts, they are very narrowly concerned about making the production process more resource efficient in order to reduce the overall environmental burden on resources. A lot of issues are either left out or neglected, such a land use changes, which are a more indirect environmental burden caused by the fibre production. 'Environmental solutions' propagated by CE and SCSCM seem to be much more focused on minimising risks and increasing the efficiency of processes to gain an economic edge. Considerations for environmental issues tied to demand and consumer behaviour fuelled by the fast fashion paradigm need to be addressed in a stronger manner.

Efforts to reduce the overall environmental impact of the garment industry should therefore concentrate on the production and the use phases. Measures such as encouraging practices in the garment production with a lesser environmental impact can significantly improve the sustainability performance of the garment industry (Watson & Fisher-Bogason, 2017). Some of these measures include, for example, the use of more eco-friendly crops, such as hemp or flax, instead of traditional cotton, recycling the effluent waste water during the production process, or avoiding air transportation. The study conducted by Roos, et al. (2015) has assessed that significant reductions of impacts can also be achieved by targeting consumers. While the ECAP initiatives has already put in place two programmes that specifically address consumer behaviours, these efforts should be scaled up to include a much wider target group across EU Member States. To achieve consumption behaviour changes, consumers need to be made aware of the sustainability issues related to the garment industry. Raising awareness and dissemination are therefore crucial drivers of change. Promotion of eco-labels and examples of best practices at the EU level can also be further used as tools for the improvement of environmental performance.

While there is no mention of reducing consumption in the EU Garment initiative, addressing the issue of mass consumption and the wasteful paradigm of the garment sector should

become a significant political priority. However, it is an unpopular topic, especially because of the fear of economic losses or the impediment of quality of life. Nevertheless, the extension of use phases is necessary as this essentially highlights where the system has failed sustainability. Technological solutions strongly propagated by the GE discourse will only be able to reduce certain part of the environmental burden caused by the garment sector. Consequently, the real question will be how to transform an industry that is so deeply embedded in an economic paradigm driven by its linearity and high redundancy. There is a crucial need to start implementing initiatives at EU level that look at consumption reduction schemes and support these through incentives, especially since the industry itself will not set up initiatives that might harm its economic growth potential.

However, the GE discourse and solution framework underline that sustainability can be an inherent part of economic growth and that resource efficiency is the real solution to our problems. Yet, the concept of transition actively propagated by the CE concept should be perceived as an opportunity to reframe discussions on sustainability. This is why the idea of **sufficiency** should be introduced in the political discourse to challenge some of the aspects of the garment's modus operandi and traditional economic linear model (Schäpke & Rauschmayer, 2014). Including an altruistic motivation for changing behaviours within the dominant discourse could potentially lead to limiting consumption by way of voluntary simplicity and a true transition towards sustainability in the garment sector. However, its use should be balanced with the goal of SD propagated strongly at the EU and international level.

5.2.3 Mutual reinforcement of the concepts to close strategic gaps

The analysis of the environmental policy discourse and resulting landscape of initiatives has illustrated that solutions targeted at the garment sector are very complex. The sustainability issues of its production-consumption system are strongly related to the globalised economy and general lifestyle in the EU. Integrative approaches are therefore crucial, since this is not only a political challenge but also has to do with the way in which the garment industry functions, namely how companies are being managed and their pursuit for short-term economic benefits.

The first and most important gap that has arisen from this research is how to enhance social and environmental standards without harming the competitiveness of European clothing businesses, which is a concern that has been voiced by a majority of organisations whether they be from the industry or from the political arena. The second, but not less important, gap is that the globalised nature of the garment industry creates cross-boundary problems in a number of developing countries that offer a competitive advantage due to the cheap labour and production costs. While the EU has hardly any enforcement mechanisms, as the state sovereignty issue is largely limiting cross border governmental regulation, it is also a question about how to set high standards without endangering the economic development of partner countries (EC, 2017a).

The two approaches offered by the CE and SSCM concepts have been picked as suitable solution frameworks by the EU in order to address some of the major sustainability challenges of the garment industry. Their translation into political action has on one hand underlined the role of companies within the transition paradigm by compelling them to build more holistic and sustainable business models in order to ensure their long term economic prosperity. On the other hand, the EU has intensified political cooperation between European and export countries in order to enhance the SDGs and ensure a prosperous future for all actors involved in the garment production-consumption system.

The latest EC communication has highlighted again that the CE represents a tremendous opportunity to generate a competitive advantage for Europe in a world that is undergoing profound changes (Commission Proposal COM(2018)32 final). Nevertheless, solutions will need to involve all stakeholders and will need to be implemented at the right level. The CE Action Plan has laid the basis for a CE strategy in the EU and has become the leading sustainability strategy for the garment industry as propagated by various industry associations and NGOs (Euratex, 2017; EMF, 2017a).

However, when looking at the global dimension of the garment industry, it becomes clear that the strategy will need to consider issues affecting other parts of the world, which are inherently part of the garment production-consumption system. A report conducted by Lucas, Kram & Hanemaaijer (2016) has substantiated that a successful transition to a CE in the EU will require actions throughout the entire value chain, from the production of fibres to product design, manufacturing, usage, repair and recycling phases. This means that consequences for developing countries which are connected through the supply chain will arise. For example, garments are produced in global production chains with the help of raw materials and cheap labour from across the world. While CE policies for this product group focus mainly on resource efficiency of materials and energy, this can directly affect developing countries. The rethink, reduce and redesign categories relate to using fewer inputs for creating the same product. Reuse, repair and remanufacturing entail extending the lifespan of a garment, which not only reduces production levels but also the related import of materials or goods. Finally, recycling and recovery focuses on processing and reusing energy and materials. This, again, reduces the import of materials, and while there are already some recycling installations in the EU, many garments are still exported to developing countries to be reused.

The recognition that existing and emerging policy ambitions invite certain challenges, requires more attention on policy coherence in the development of strategies targeted at the garment sector. Minimising contradictions and building synergies is therefore crucial in order to benefit developing countries and increase the effectiveness of development cooperation. While the realisation of a CE system presupposes different measures depending on the sector, it is nevertheless important to understand the effect of CE policies on developing countries. This has further given rise to the question of how SSCM elements can inform the CE concept in order to integrate embedded environmental issues that result from the shift of garment production towards developing countries. Looking at the various conceptual elements it is founded on and the initiatives that the concept has inspired, SSCM offers an understanding of supply chain issues that goes beyond borders. Built on the notion of cooperation between various stakeholders along the value chain, it offers strategic tools that can weight various elements against each other to ensure a balanced recognition of all sustainability dimensions. Optimal management and use of resources can therefore be ensured through SSCM practices that in turn represent a prerequisite for a CE garment industry. These tools can further help in examining the scope and geographic scale of industrial-environmental systems relevant to waste minimisation, resource efficiency and other.

The CE and SSCM concepts should not be competing for attention but rather mutually reinforce each other, as their principles and conceptual elements should go hand in hand. They already both brought forward some common themes, such as transparency or collaboration, that are crucial and will need to be scaled up if a sustainable garment industry is to be developed. A mutual reinforcement of both concepts can therefore offer a more nuanced and integrative approach to finding the right solutions to enhance the overall sustainability of the garment sector. Thinking in circles rather than linear value chains inspires organisations to seek optimisations and innovations that benefit the entire system they operate in. The CE concept

can thereby help to inform a better way to build a sustainable industry model. While the SSCM concept itself does not challenge the system, it can help in the implementation of CE practices and strategies in order to work towards the goal of a sustainable garment industry.

It would be too straightforward to deem one solution framework to be better suited to tackle the sustainability challenges of the garment production-consumption system. Both concepts have brought forward a number of conceptual elements that can be picked up to inform a European legislative framework that helps to support but also enforce certain standards. A strong leadership is needed as the industry by itself is not able to make the transition towards a sustainable industry model often due to the fear of losses in competitive edge or profits. This is where the role of the EU is crucial as it is in the best position to enforce a level playing field that will ensure that standards are upheld, especially, since these will contribute to the greater good of all stakeholders involved in this complex system that is the garment industry.

6 Conclusion

A broad consensus has established itself around the fact that a transformation of the current production-consumption system of the garment industry is urgently required if the long-term prosperity of the sector is to be ensured. The aim of the research was therefore to contribute to the development of coherent policy measures aiming to enhance sustainability of the garment sector by systematically analysing the solutions offered by the CE and SSCM concepts which have been promoted at the EU level.

6.1 Research objectives and main findings

In order to meet this aim, three Research objectives (RO) were outlined.

RO(1): Explore the current GE policy discourse and outline the two solution frameworks of CE and SSCM which are being propagated at the EU level in order to advance a sustainable garment industry model.

The discourse analysis enabled to investigate the current European environmental policy development and implementation. When analysing the framing of solutions to the pressing environmental issues that are the product of the present economic system, it can be noted that they are most commonly in line with the GE theory. The EC has utilised the GE theory because it promises a framework capable in reaching a transition towards an economic model that is in line with planetary boundaries. The resulting policy discourse has further laid the foundation for the CE and SSCM sustainability strategies to arise and be chosen as suitable concepts to address the environmental challenges of the garment sector.

Although certain conceptual elements can be traced back several decades, explicit strategies based on their solution frameworks have been propagated more recently by European policy makers with regard to the creation of a sustainable garment industry model. The CE concept offers solutions consistent with a systemic change contributing to the security of supply and the reduction of environmental impacts of production-consumption systems. It thereby addresses issues along the entire supply chain. The SSCM concept acknowledges the globalised nature of production-consumption systems. It offers a more specific strategy to incorporate environmental concerns within the processes of businesses often relying on global supply chains.

RO(2): Systematically analyse the resulting policy landscape undertaken by the EU with regard to the creation of a sustainable garment governance structure.

The resulting European policy landscape, outlined in detail in Section 4.2, has set a legislative basis for the principles propagated by the SSCM and CE concepts to emerge. Their conceptual elements and priority themes can be found in a number of existing environmental policies at the EU level. These all act as a sign of willingness to address the paradigm that has contributed to the growing environmental issues caused by the garment industry, namely the short production-consumption cycles, the wasteful nature of the linear economy, the lack of responsible business conduct.

Thus, while a legislative framework, although limited, exists, a number of recent initiatives have started to pick up on the increased awareness that sustainability issues of the garment industry have received in recent years. These aim to contribute to the creation of a sustainable garment governance model.

RO(3): . Investigate where the conceptual elements of CE and SSCM overlap, what differences exist, and if they mutually reinforce each other, and thereby, contribute to or hinder the development of an EU governance structure that effectively addresses sustainability issues in the garment industry.

Firstly, the theoretical framework, outlined in the Literature review, gives an overview of where the conceptual elements overlap as well as the differences that exist. A number of key conceptual elements and priority themes associated with CE and SSCM are common to both concepts. These include, for example, notions of collaboration, sustainable consumption and production, innovation, lifecycle assessment, eco-design, or sustainable procurement. While the CE concept is more resource focussed, the SSCM framework is more inclusive of social aspects. The CE also offers an action agenda that goes beyond strategies that aim at enhancing production processes of the current economic system, but rather challenges it by introducing the notion of circularity and waste-to-resource. However, when considering a strong sustainability vision, both concepts remain limited in their criticism of economic growth and pushing environmental boundaries.

Secondly, the cross-cutting analysis of two European initiatives, namely the EU Garment Initiative and the European Clothing Action Plan, has further enabled an examination of the overlaps and potential reinforcement of the two concepts. What has become clear is that the CE and SSCM concepts should not be competing for attention but rather mutually reinforce each other, as their principles and conceptual elements go hand in hand. Both bring forward some common themes, such as transparency or collaboration, that are crucial and will need to be scaled up if a sustainable garment industry is to be developed.

The mutual reinforcement of both concepts can therefore offer a more nuanced and integrative approach to finding the right solutions to enhance the overall sustainability of the garment sector at the EU level. Thinking in circles rather than linear value chains inspires organisations to seek optimisations and innovations that benefit the entire system they operate in. The CE concept can thereby help to inform a better way to build a sustainable industry model. While the SSCM concept itself does not challenge the system, it can help in the implementation of CE practices and strategies in order to work towards the goal of creating a sustainable garment industry.

6.2 Recommendations for policy makers

The findings of this research indicate that broader action will be required to enable a real sustainability transition of the garment sector. A number of concrete actions can be undertaken that are in line with the findings of this research. Targeted at the main audience for this thesis, policy makers have a set of options that they can engage in to promote and develop coherent policy measures aimed at enhancing sustainability of the garment industry.

For one, joining forces at the EU level can provide an extensive level playing field that avoids a comparative advantage for companies not in line with sustainability requirements. While the EU institutions are best placed to promote and facilitate a sustainable garment governance framework, the recent efforts undertaken will need to be scaled up and translated into concrete action through the adoption of a 'whole-of-government' approach. Stronger cooperation between the EC's DGs is therefore essential in driving the agenda forward.

A stronger discourse on a sustainable garment governance model needs to be fuelled, one which further outlines the need for a transition and the resulting benefits for the industry. This also goes hand in hand with defining 'a sustainable garment industry' at the EU level in order

to find a common and harmonised understanding of the term that leaves no room for misinterpretation. A clear understanding will furthermore be a crucial step in defining criteria for sustainability measures targeted at the garment industry and help to set concrete targets in the future, for example for textile waste reductions or EPR schemes.

A second important recommendation for policy makers is to address environmental issues tied to demand and consumer behaviour in a stronger manner. Efforts to reduce the overall environmental impact of the garment industry should therefore concentrate on the production and the use phases. Practices with a lesser environmental impact in the garment production should be further encouraged, while real consumption behaviour changes should also be promoted through a raise in awareness of sustainability issues and the dissemination of best practices (e.g. reuse & disposal of clothes). This should additionally be supported by including the concept of sufficiency within the dominant environmental policy discourse at the EU level, which could potentially lead to limiting consumption by way of appealing to the altruistic motivation of consumers.

The last point that should be made is the recognition that existing and emerging policy ambitions invite certain challenges. This means that more attention on policy coherence in the development of strategies targeted at the garment sector is required. The CE and SSCM concepts should guide environmental policy making in a way that they mutually reinforce each other when looking for specific solutions targeted at the garment industry. Thinking in circles rather than linear value chains can inspire the garment industry to seek optimisations and innovations that benefit the entire system it operates in. The CE concept can thereby help to inform a better way to build a sustainable industry model. While the SSCM concept itself does not challenge the system, it can help in implementing CE practices and strategies in order to work towards the goal of a sustainable garment industry. This mutual reinforcement can therefore offer a more nuanced and integrative approach to finding the right solutions to enhance the overall sustainability of the garment sector.

6.3 Reflections on the research

In essence, the research undertaken contributes to the body of knowledge by highlighting the need for an integrative approach to environmental policy making. It further adds to the work already carried out by various organisations with respect to potential policy initiatives on where the EU can provide added value with regard to a transition towards a sustainable garment sector (AETS, 2016; Cobbing, & Vicaire, 2017; EMF, 2017a; GFA & BCG, 2017; Jastram & Schneider, 2015; Klepp, et al., 2015; WRAP, 2017).

Overall, the research conducted has responded to the three research objectives. Some limitations with regards to data collection, outlined in Section 2.4.2, might have contributed differently or more extensively in shaping the findings of the research. Additional efforts of data collection could have therefore helped to gain insights from a more varied sample of experts, especially those that have extensive knowledge on environmental issues tied to the garment industry.

6.4 Future research

Throughout this study several gaps in knowledge were identified that could be addressed in future research. While this research has not looked at the actual effects that policies or initiatives may have had on business conduct and industry behaviour it would be interesting to gain more knowledge on this. This would further enable to give a more informed opinion on

best practices and things that should be done or not done in the creation of a European wide flagship initiative targeted at the garment sector.

Another area worthy of future investigation is the perceived need of a European framework to guide the garment industry towards a sustainability transition. A number of different stakeholders could be interviewed with regard to this research, and their opinions weighted against each other to get a better understanding of which actors perceive it as a necessity and which actors do not. This could further inform the implications these agreements or disagreements might have for policy making and enforcement at the EU level.

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Appendix I. Selected documents for discourse analysis and environmental policy development

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- Commission Proposal COM(2014)0398 final. Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on towards a circular economy: A zero waste programme for Europe.
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Appendix II. List of conferences, talks and webinars attended

- I. Conference on 'Trade for Sustainable Development. Fashion Focus: the fundamental right to a living wage', organised by the Social at European Parliament, in Brussels, on the 20 February 2018.

The event started with the presentation of The Circle's report by Livia Firth, Jessica Simor QC and Miriam González Durántez, followed by a discussion with: Carlo Calenda (Italian Minister of Economic Development); Bernd Lange (Chairman of the International Trade Committee at the European Parliament); Cecilia Malmström (European Commissioner for Trade); and Guy Stuart, (Executive Director, Microfinance Opportunities).

- II. Conference on 'We care for your shirts... and our rights – Dignified work in Bangladesh.', organised by CARE International and The Greens/EFA, at the European Parliament, in Brussels, on the 26 February 2018.

The event started with a welcome by Member of the European Parliament (MEP) Monika Vana, followed by a discussion with: Andrea Barschdorf-Hager (CEO, CARE Austria); Humaira Aziz (Women's Economic Empowerment Director, CARE Bangladesh); Chloé Allio and Ebba Aurell (Policy Officers, European Commission, DG DEVCO Unit C4 - Private Sector, Trade); moderated by MEP Judith Sargentini and with closing remarks from MEP Jean Lambert.

- III. European Ideas Lab organised by the European Greens/EFA in Brussels, on 1-3 March 2018.

The European Ideas Lab provides a forum where change-makers and Greens from all over Europe can engage in a professionally facilitated and neutral space to share ideas, experiences and knowledge; to brainstorm collectively on specific topics, to facilitate networking and to create lasting connections between the participants, which can help inform domestic and European policy, and if possible enable the participants to identify and work cooperatively on common campaigns.

- IV. Webinar on 'Sustainable apparel: How brands can improve their value chain environmental footprint – and make it pay', organized by The Innovation Forum, in London, 21 March 2018.

Participants included: Claire Bergkamp (Head of Sustainability and Ethical trade, Stella McCartney); Anna Maria Rugarli (Senior Director for Sustainability and Responsibility, EMEA, VF Corp); Traci Kinden (Project manager for Circular textiles, Circle Economy); and hosted by Tobias Webb (Founder, Innovation Forum).