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Governing Emissions Beyond Ownership

H&M's Scope 3 Governance in the Garment Value Chain

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Abstract:

This thesis examines how H&M's scope 3 emission governance is connected to the distribution of power, responsibility, and value between H&M and its garment manufacturing suppliers. The background explains why scope 3 emissions are particularly relevant in the garment industry, where many emissions occur outside H&M's direct operations. Drawing on a Global Production Network perspective, the study understands H&M as a lead firm in an outsourced production network. Methodologically, it uses qualitative document analysis of H&M reports, policy documents, NGO reports, media articles, and industry sources concerning suppliers and garment production contexts. The empirical findings show that H&M governs without owning factories through climate targets, supplier requirements, reporting systems, monitoring, and support programmes. The material concerning suppliers indicates that suppliers are expected to implement environmental practices and provide data while operating under cost pressure and dependency. The discussion argues that scope 3 governance can support emission reductions and environmental upgrading, but also raises questions about data reliability, cost distribution, and value capture within the value chain. The study concludes that responsibility is shared, but that H&M is better positioned to define expectations and capture strategic benefits, while suppliers may face uncertain economic returns.

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Keywords: Sustainability governance, garment industry, Global Production Network, environmental upgrading, Scope 3

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1. Introduction

The garment industry is widely recognised as one of the most environmentally intensive global industries, with impacts on climate, water, land use, and raw material consumption (European Commission, 2022). As regulatory pressure, investor expectations, and consumer demand for sustainability have increased, global brands have also been pushed to strengthen their climate targets and sustainability reporting. This has made the role of lead firms increasingly important, especially in industries where environmental impacts are not limited to the firms' own operations but are produced across global production networks (Alexander, 2020). In this context, scope 3 emissions have become particularly relevant, since they include emissions that occur outside a company's direct control, often across dispersed and outsourced value chains (McKinsey & Company, 2024). For fashion companies, this is especially significant because many emissions occur upstream in production, processing, and raw material sourcing rather than in their own facilities (World Resources Institute & World Business Council for Sustainable Development, 2011; Husain, 2025). These stages are often geographically distant, organisationally fragmented, and difficult for lead firms to control directly, particularly in buyer-driven and outsourced production networks (Gereffi, Humphrey, & Sturgeon, 2005; Coe & Yeung, 2015). This creates a central tension where global brands increasingly report climate progress and sustainability improvements, while the practical implementation of these goals often depends on suppliers operating under cost pressure (Jensen & Whitfield, 2022; Ponte, 2022).

Global supply chains are also increasingly shaped by governmental green regulation, consumer pressure and civil society criticism. In the fashion industry, this pressure has intensified since the 2010s, when NGOs and consumers increasingly criticised the social and environmental consequences of the fast-fashion model. In response, global brands have adopted social, safety and environmental standards that require suppliers to implement labour and environmental management processes. Suppliers in apparel global supply chains are often squeezed between low prices and increasing buyer requirements, and environmental performance has more recently become one of these requirements as buyers seek to reduce brand and reputational risks linked to sustainability concerns. Although environmental upgrading may improve eco-efficiency and reduce resource use, the benefits are not necessarily distributed evenly, since buyers may capture much of the value through continued low prices and market power

imbalances (Jensen & Whitfield, 2022). Because the literature and material use both terms, this thesis follows their contextual usage where apparel is used primarily when referring to the broader industry, while garment is used when discussing manufacturing, factories, suppliers, and workers involved in clothing production. More recently, supply chain decarbonisation has also been framed as a source of business value rather than only as a cost, with H&M and EY arguing that short-term investments in supplier decarbonisation can generate longer-term strategic value (McMillan, 2026). However, previous research also suggests that the costs of environmental compliance in the apparel industry have often fallen on suppliers without corresponding financial support from buyers (Jensen & Whitfield, 2022). This makes it necessary to ask not only whether emissions are reduced, but also how power, responsibility, and value are distributed within the process.

This study examines this tension through the case of H&M and its garment manufacturing suppliers. The company is a relevant case because it combines an extensive global supplier network with strong public sustainability ambitions and detailed reporting on climate and supply chain governance (H&M Group, n.d.-a; H&M Group, n.d.-d). Drawing on a Global Production Network (GPN) perspective, the study analyses how H&M's scope 3 emission governance is connected to the distribution of power, responsibility, and value between H&M and its garment manufacturing suppliers. This includes how H&M frames sustainability and supplier responsibility in its reporting, how suppliers are governed through standards, monitoring and support mechanisms, and how costs, risks and responsibilities may be distributed across the value chain. In doing so, the study explores whether reported emission reductions should be understood only as environmental progress, or also as part of a broader governance process in which sustainability requirements may reproduce uneven relations between lead firms and suppliers (Ponte, 2022; Jensen & Whitfield, 2022).

This study aims to analyse how H&M's scope 3 emission governance is connected to the distribution of power, responsibility, and value between H&M and its garment manufacturing suppliers. Drawing on a Global Production Network (GPN) perspective, the study examines how H&M frames sustainability, supplier responsibility, and emission reductions in its reporting, and how these governance practices are reflected in material concerning suppliers and garment production contexts. The analysis therefore focuses on H&M's governance of supplier practices without direct ownership of production, the assignment of responsibility

across the value chain, and the distribution of costs and benefits connected to environmental upgrading. Based on this aim, the study is guided by the following research question:

How is H&M's scope 3 emission governance connected to the distribution of power, responsibility, and value between H&M and its garment manufacturing suppliers?

2. Background: GHG Emissions and Scope 3

Companies are increasingly expected to account for greenhouse gas (GHG) emissions across their value chains. As climate targets and sustainability reporting requirements become more important, firms need to understand not only the emissions generated within their own operations, but also those connected to suppliers, materials, transport, product use, and end-of-life treatment. The GHG Protocol divides these emissions into three scopes, which provide a framework for distinguishing between direct emissions, electricity-related indirect emissions, and other indirect emissions across the value chain. For this study, scope 3 is particularly relevant because it includes emissions that occur outside H&M's direct operations, while still being connected to the company's products and supplier network. This background chapter therefore introduces GHG emissions and scope accounting as a basis for the later analysis of H&M's scope 3 governance.

2.1 Greenhouse Gas Emissions in the Garment Industry

GHG emissions occur across several stages of the garment value chain, beginning with raw material production. Husain (2025), referring to the European Environment Agency, states that raw material production and processing account for around 38 percent of total GHG emissions in the textile lifecycle. This is particularly relevant for materials such as cotton and polyester, where emissions are linked to energy use, fertilisers, and fossil fuels. Polyester production, for example, emits nearly three times more CO₂ per kilogram than cotton (Husain, 2025). The following stages of manufacturing, dyeing, and finishing also require large amounts of energy, water, resources, and energy use in these processes often relies on coal or diesel. Textile dyeing is also associated with significant water pollution. After production, garments are transported across global markets, where the choice of transport mode affects emissions. Air freight, for example, produces substantially more CO₂ per tonne-kilometre than sea freight (Ritchie, 2023). Emissions also occur during consumer use, especially through washing and tumble drying, while synthetic fabrics can shed microplastics during washing and contribute to water pollution (Husain, 2025). At the end of use, garments may be landfilled or incinerated, which can result in further emissions.

2.2 The Different Scopes and Why Scope 3 Emissions are Relevant

Effective GHG management requires companies to understand both direct and indirect emissions across their value chain. Direct GHG emissions come from sources that the company owns or controls, while indirect emissions are a consequence of the company's activities but occur from sources owned or controlled by another company. To improve transparency and make emission reporting more useful across different types of companies, policies and climate goals, the GHG Protocol divides emissions into three scopes for accounting and reporting purposes (World Resources Institute & World Business Council for Sustainable Development, 2004).

Scope 1 and scope 2 are defined in the original standard from, Greenhouse Gas Protocol (GHG Protocol), to ensure that the same emissions are not reported within the same scope by multiple companies. This helps prevent double counting and makes the scopes suitable for use in GHG accounting frameworks where avoiding duplication of emissions is important (World Resources Institute & World Business Council for Sustainable Development, 2004). The purpose of the GHG Protocol is to develop internationally accepted GHG accounting and reporting standards and tools to promote their adoption to lower emissions economy around the world. It is a multi-stakeholder partnership of business, non-governmental organizations (NGOs), governments, and other gathered by the World Resources Institute (WRI) together with the World Business Council for Sustainable Development (WBCSD) (World Resources Institute, & World Business Council for Sustainable Development, 2011). The GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard from 2011 was developed as a further extension of the GHG Protocol Corporate Accounting and Reporting Standard from 2004 and is intended for use by both private and public companies and organisations. This standard works for accounting six main GHGs: carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulphur hexafluoride (SF₆) (World Resources Institute, & World Business Council for Sustainable Development, 2011).

Scope 1 includes direct GHG emissions from sources that are owned or controlled by a company. This includes, for example, emissions from fuel combustion in company-owned boilers, vehicles or furnaces, as well as fugitive emissions from leaks in refrigeration, air conditioning or industrial equipment. Emissions from electricity generated by the company

itself are also included in scope 1, even if the electricity is sold to another company. However, direct CO₂ emissions from the combustion of biomass are reported separately, and emissions not covered by the Kyoto Protocol are not included in scope 1 but may also be reported separately (World Resources Institute & World Business Council for Sustainable Development, 2004). Scope 2 includes indirect GHG emissions from the generation of purchased electricity consumed by a company. These emissions physically occur at the facility where the electricity is produced, but they are reported by the company that purchases and uses the electricity. Scope 2 is therefore relevant for understanding the climate impact of a company's energy use, even when the company does not generate the electricity itself. Emissions from transmission and distribution losses are reported by the company that owns or controls the transmission and distribution system, not by the final electricity user (World Resources Institute & World Business Council for Sustainable Development, 2004).

Scope 3 includes all other indirect emissions that occur as a consequence of a company's activities, but from sources that are not owned or controlled by the company. This can include emissions from the extraction and production of purchased materials, transportation of purchased goods, production processes carried out by suppliers, and the use or disposal of sold products and services (World Resources Institute & World Business Council for Sustainable Development, 2004). Scope 3 emissions are divided into upstream and downstream emissions, based on the reporting company's financial transactions. Upstream emissions are connected to purchased goods and services, while downstream emissions are connected to sold products and services. For a fashion company such as H&M, this makes scope 3 relevant, since a large share of emissions occurs in material production, processing and garment manufacturing outside the company's direct operations.

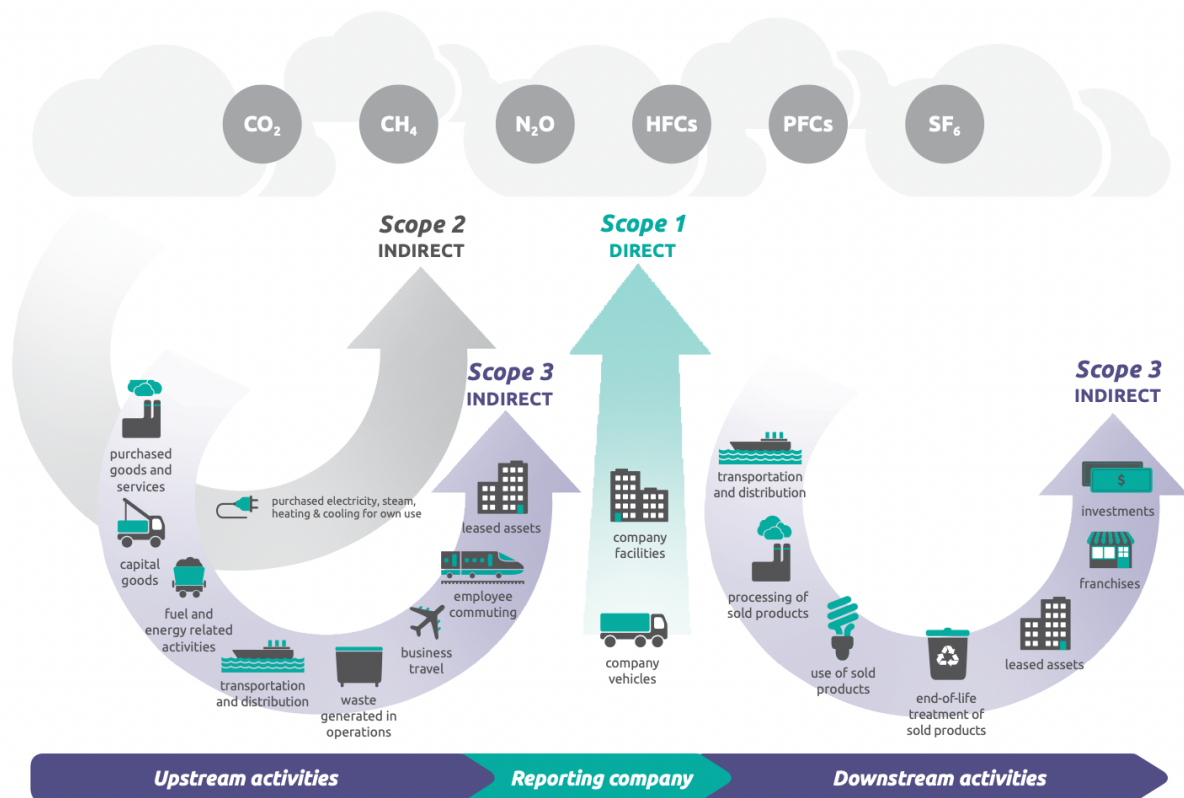


Figure 2.1: Overview of GHG emissions and division of Scope 1, 2, and 3 across the value chain. The figure shows how emissions are divided between direct company operations and indirect upstream and downstream activities. It highlights why scope 3 is important, since many emissions occur outside the reporting company's direct control.

Source: World Resources Institute & World Business Council for Sustainable Development (2011).

Companies must also define organisational and operational boundaries when accounting for GHG emissions. The organisational boundary determines which operations are included based on ownership or control, while the operational boundary identifies which direct and indirect emissions are categorised as scope 1, 2 or 3. Together, these form the company's inventory boundary, which defines which emissions are included in its reporting. This boundary-setting is important because it affects how emissions are measured, compared and managed, and can help companies identify risks, reduction opportunities and efficiency improvements across the value chain (World Resources Institute & World Business Council for Sustainable Development, 2004). For scope 3 emissions, companies also need to consider the purpose of the inventory. According to the GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard, scope 3 accounting can help companies identify risks and opportunities, locate emission "hot spots", set reduction targets, track performance over time and engage value chain partners in emission reductions. It can also support investment decisions

and strengthen stakeholder communication through public reporting (World Resources Institute & World Business Council for Sustainable Development, 2011). This makes scope 3 accounting particularly relevant in the garment industry, where many emissions occur outside the lead firm's direct operations. For a lead firm such as H&M, reported emission reductions therefore depend on data, practices, and implementation across several stages of production. Scope 3 accounting becomes important not only because it measures emissions, but because it links corporate climate targets to activities carried out by suppliers and other actors in the value chain.

3. Theoretical Framework

To analyse H&M's role in governing sustainability across its garment value chain, this chapter develops a theoretical framework based primarily on the Global Production Network (GPN) perspective. In this study, H&M is understood as the lead firm, since it does not own production facilities but still coordinates supplier relationships, sets requirements, and reports on emissions connected to activities carried out across its supplier network. This provides a framework for understanding how production, governance and value creation are organised across geographically dispersed networks. Rather than treating H&M's sustainability work only as an internal corporate process, the GPN perspective makes it possible to analyse how environmental goals are shaped through relationships between lead firms, suppliers, institutions and other actors in the garment value chain. The chapter therefore focuses on three analytical dimensions: power, responsibility, and value. These dimensions are later used to examine how H&M governs its suppliers, how environmental responsibility is assigned, and how costs, risks, and benefits are distributed across the network and value chain. While the broader GPN framework includes several dimensions, this study primarily uses power, responsibility, and value as analytical categories for examining H&M's scope 3 governance.

3.1 Global Production Network and Lead Firm Governance

GPN theory provides a framework for understanding how production is organised across geographically dispersed but interconnected networks of firms, suppliers, institutions and other actors. Rather than viewing production as a linear chain, the GPN perspective emphasises the relationships through which economic activities are coordinated, governed and embedded in specific social, institutional and territorial contexts (Henderson et al., 2002; Coe & Yeung, 2015). This makes the framework useful for analysing the garment industry where production takes place across several countries, while still being shaped by the strategies of powerful lead firms.

In its early formulation, the GPN framework was built around the concepts of value and power and will later be explained deeper in further sections (Henderson et al., 2002). These concepts are relevant for this study because H&M's sustainability governance cannot be understood only as an internal corporate strategy. It must also be analysed as part of a wider production network where suppliers, workers, and other actors are connected through economic and governance

relationships. The development of GPN can partly be understood as a response to intensified cost-based competition and the restructuring of production in advanced economies. As firms faced increasing pressure to reduce costs and improve efficiency, many shifted away from vertically integrated production towards more geographically dispersed production systems. This is relevant for garment production, where global brands often retain control over design, sourcing, and market access, while manufacturing is outsourced to independent suppliers. This reflects the structure of buyer-driven garment value chains, where global brands retain control over design, sourcing, and market access, while manufacturing is carried out by independent suppliers (Gereffi et al., 2005; Ponte & Sturgeon, 2014). This also reflects H&M's structure, since the company does not own factories but collaborates with independent manufacturers (H&M Group, n.d.-c).

Governance is an important part of the GPN perspective because it explains how relationships within production networks are organised and coordinated. In Global Value Chain (GVC) and GPN research, governance is used to understand how lead firms influence production activities, supplier relations and value chain organisation, even when they do not directly own production facilities. Gereffi et al. (2005) show that lead firms can coordinate GVCs through different forms of governance, depending on factors such as the complexity of transactions, the ability to codify information and the capabilities of suppliers. This means that governance is not limited to ownership, but also concerns how production is coordinated through standards, requirements, monitoring and control mechanisms. Ponte and Sturgeon (2014) further develop this understanding by arguing that governance patterns differ between industries and are shaped by factors such as supplier capabilities and the institutional context in which production takes place.

More recent GPN research has developed the framework further by emphasising that GPNs are dynamic and shaped by broader geographical, institutional and political-economic changes. Coe and Yeung (2019) show that "GPN 2.0" intersects with several wider dimensions, including the state, finance, labour, development and the environment (see Figure 3.1). The figure illustrates how GPN 2.0 remains centred on global production networks, while also recognising that these networks are shaped by "constituent outsides" such as regulation, financial pressures, labour regimes, environmental conditions and uneven development outcomes. This more recent perspective is important for this study because H&M's supplier

network is not only an economic production system, but also a setting where sustainability requirements are translated into supplier governance. The figure is used here to position the study within a broader GPN perspective, but the analysis focuses mainly on the intersections between environment, labour, finance, and lead firm governance.

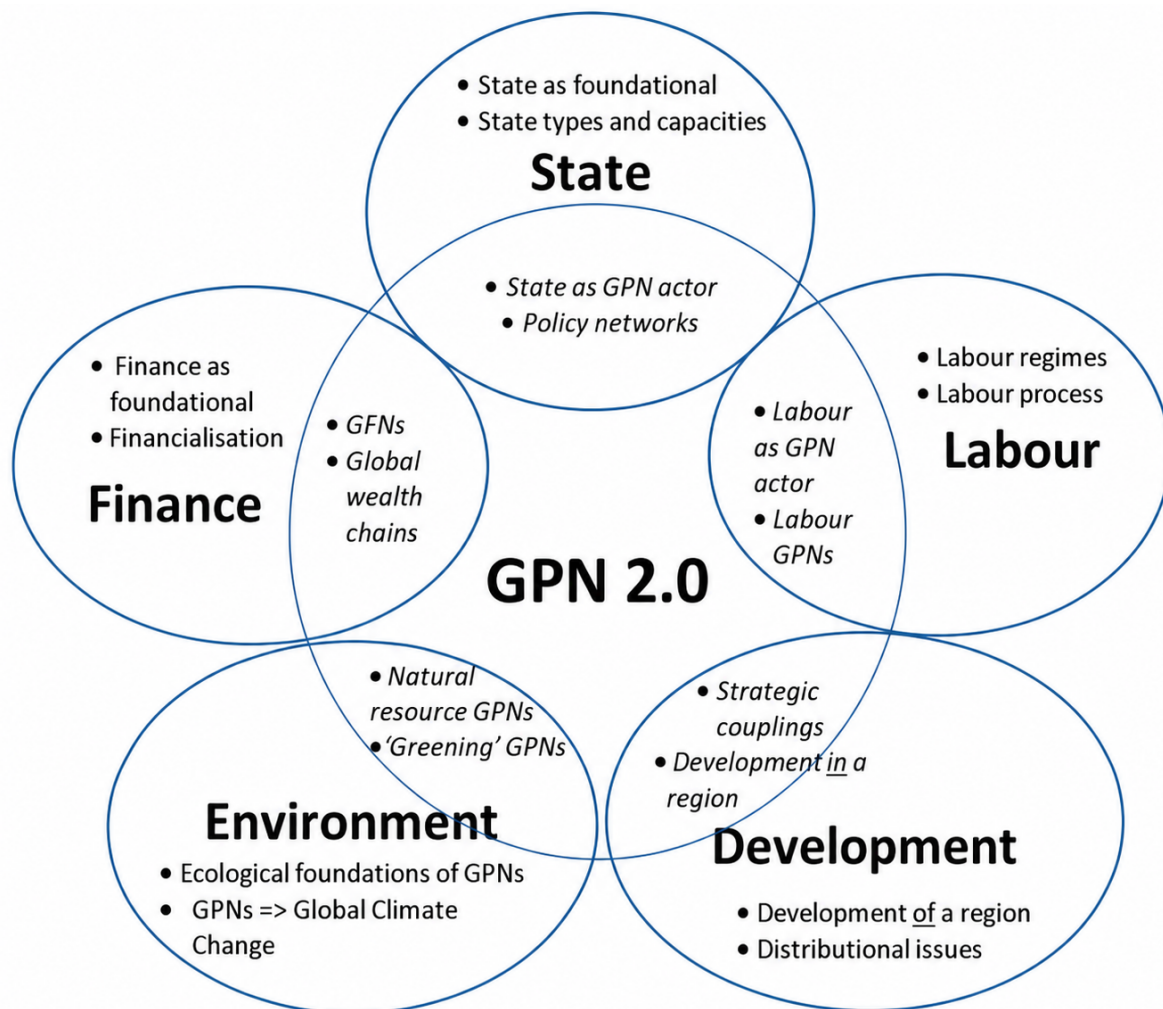


Figure 3.1: GPN theory and its intersections within the state, finance, environment, development, and labour. The figure illustrates how global production networks are shaped by wider social, economic, environmental and institutional relations. It helps position the study within a GPN perspective that goes beyond the buyer-supplier relationship.

Source: Adapted from Coe and Yeung (2019); background colour removed.

Building on this, recent research on sustainability governance in GPNs further indicates that lead firms increasingly take on broader roles when trying to promote sustainable practices across fragmented production networks. Alexander (2020) argues that lead buyer governance for sustainability can involve several mechanisms, including compliance-based control, support

services, and partnerships. The GPN framework therefore provides a basis for examining how H&M's Scope 3 emission governance operates across its supplier network, and how this governance can later be analysed through the dimensions of power, responsibility, and value.

3.1.1 Power and Governance in Global Production Networks

Power is a central concept in GPN theory because it helps explain how production networks are shaped, coordinated and contested. In the early development of GPN framework, Henderson et al. (2002) understand power not only as control within a firm, but as something that operates across relationships between collective actors. They distinguish between corporate, institutional and collective forms of power. *Corporate power* refers to the ability of firms to influence decisions and organise production networks according to their strategic interests. *Institutional power* concerns the role of states, international organisations and regulatory frameworks, while *collective power* refers to actors such as trade unions, NGOs and civil society movements (Henderson et al., 2002). This distinction is important because governance in GPNs is not shaped by lead firms alone, but also by wider institutional and social pressure. While Henderson et al. (2002) distinguish between corporate, institutional, and collective power, this study primarily uses corporate power to analyse H&M's role as a lead firm. Institutional and collective power are treated as contextual pressures that shape H&M's sustainability governance, rather than as separate analytical categories.

In outsourced production networks, power is closely connected to governance. Gereffi et al. (2005) show that lead firms may influence suppliers even when they do not own production facilities, such as garment factories, since they often control market access, product specifications, sourcing decisions and supplier requirements. In this way, governance becomes a mechanism through which power is exercised across the network. The form of coordination between lead firms and suppliers depends on factors such as transaction complexity, the codifiability of information and supplier capabilities (Gereffi et al., 2005). This is relevant for buyer-driven industries such as garment production, where lead firms can shape supplier behaviour through requirements, monitoring and purchasing practices rather than direct ownership (Gereffi et al., 2005; Ponte & Sturgeon, 2014).

Power in GPNs is therefore not limited to the direct relationship between lead firms and their suppliers. Ponte and Sturgeon (2014) argue that governance can also be shaped by actors and

pressures outside the immediate buyer-supplier relationship, including regulation, civil society campaigns, third-party standards, consumers and workers. This is important for understanding sustainability governance, since lead firms operate within a broader environment of climate regulation, reporting expectations, NGO criticism, and labour-related concerns. Governance in GPNs is therefore shaped both by firm-level coordination and by wider institutional and social pressures (Ponte & Sturgeon, 2014).

More recent GVC research has further developed the concept of power by showing that it should not be treated as a single or undefined category. Dallas et al. (2019) distinguish between direct and diffuse forms of power. *Direct power* refers to situations where identifiable actors influence others through clear tools or decisions, while *diffuse power* operates more indirectly through norms, standards, systems and accepted practices (Dallas et al., 2019). This distinction is useful for this study because H&M may influence suppliers directly through purchasing practices, contracts, audits and supplier requirements, but also more indirectly through sustainability standards, reporting systems and broader expectations about responsible production.

Dallas et al. (2019) also emphasise that different forms of power often overlap in practice. Supplier behaviour may therefore be shaped at the same time by buyer requirements, institutional pressures, industry standards and wider sustainability norms. Power in GPNs should therefore be understood as layered rather than as a simple relationship where one actor controls another (Dallas et al., 2019). This also means that supplier governance must be related to the specific production context in which suppliers operate. For this study, this is relevant because suppliers' ability to respond to H&M's sustainability requirements is shaped not only by H&M's governance, but also by the broader institutional, social and economic conditions of garment production.

3.1.2 Responsibility in Sustainability Governance

Building on the discussion of power and governance, responsibility is important for understanding how sustainability obligations are assigned within GPNs. In outsourced production networks, responsibility is not always related to ownership. Lead firms may set targets, standards and reporting requirements, while implementation often takes place among suppliers (Henderson et al., 2002; Gereffi et al., 2005). Responsibility in sustainability

governance is also shaped by pressures beyond the direct relationship between lead firms and suppliers. As discussed in the previous section 3.1.1, governance in GPNs is influenced not only by firms, but also by regulation, civil society campaigns, third-party standards, consumers and workers (Ponte & Sturgeon, 2014). These external pressures can create expectations for lead firms to take responsibility for social and environmental conditions across their value chains, even when production is outsourced. At the same time, these expectations may be translated into supplier requirements, reporting duties and compliance procedures. Responsibility in GPNs should therefore be understood as both externally shaped and internally distributed, lead firms respond to institutional and stakeholder pressures, while suppliers are often responsible for implementing the practical tools required to meet these expectations.

Sustainability governance becomes particularly complex when environmental and social challenges extend beyond first-tier suppliers to lower tiers of production, including raw material sourcing. In fragmented GPNs, where production is divided across several suppliers and geographical places, lead firms may have limited direct contact with lower-tier suppliers. In that case, firms may not always know which firms who are involved in the earlier stages of production. This limits the flow of information across the network, especially when issues arises or when smaller suppliers lack the resources to meet disclosure and reporting requirements. As a result, responsibility for sustainability becomes difficult to locate and monitor, since lead firms are expected to govern impacts across extended supplier networks where transparency and traceability may be limited (Alexander, 2020). This perspective is relevant for the study of H&M because scope 3 emissions are connected to activities that take place across several stages of the value chain, including production processes outside H&M's direct ownership. Responsibility in sustainability governance must therefore be understood not only as a question of formal commitments, but also as a question of how far lead firms influences and monitor sustainability practices across its fragmented and diverse production network.

Khan et al. (2020) show that environmental upgrading in apparel value chains can create tensions around how responsibility is distributed between buyers and suppliers. Their study indicates that factory managers often understand environmental upgrading as connected to buyers' reputation and risk management, while implementation also requires investments and operational changes at supplier level. Although environmental management systems may generate efficiency gains, Khan et al. (2020) show that suppliers often perceive these benefits

as insufficient in relation to the costs and operational demands associated with environmental upgrading. This highlights that sustainability governance is not only about setting environmental requirements, but also about how the practical and financial responsibility for meeting these requirements is shared across the value chain.

3.1.3 Value Creation, Cost Distribution, and Value Capture

Value can be understood as something that is created, enhanced, and captured within global production networks (Henderson et al., 2002). First, value is *created* when firms organize labour, technology, and production processes in ways that generate surplus value or economic rents. This includes how workers' labour is used, under what working conditions production takes place, and how firms benefit from technology, skills, organization, relationships, brands, or trade policies. Second, value can be *enhanced* when firms improve their technological capabilities, product quality, skills, or organizational knowledge, often through learning, upgrading of suppliers, or technology transfer within the production network. Third, Henderson et al. (2002) mean that creating value in a location does not automatically mean that the value benefits the specific location. Value must also be *captured*, meaning retained by firms, workers, governments, or communities in that place. This depends on ownership structures, state policies, corporate governance, and the wider institutional context.

The restructuring of production is relevant for understanding value distribution in garment value chains. As lead firms have outsourced manufacturing to independent suppliers, value creation has become geographically dispersed, while control over design, sourcing, branding, and market access often remains with the lead firm. This matters for this study because environmental upgrading takes place within a production network already shaped by cost pressure and buyer power. Suppliers may be central to creating value through production and environmental improvements, but this does not automatically mean that they are able to capture a corresponding share of that value.

Jensen and Whitfield (2022) connect *environmental upgrading* to the question of value capture in GVCs. Environmental upgrading refers to changes that reduce the environmental impact of production, but it is also connected to whether actors can capture more value. Process upgrading may improve efficiency through better technologies or production systems, while product upgrading involves producing higher-quality goods. Functional upgrading means taking on

higher-value tasks, and inter-sectoral upgrading refers to shifting competence from one chain to another to develop an advanced chain. These forms of upgrading are relevant because sustainability requirements may create opportunities for suppliers while also, may generate further costs. In garment value chains, suppliers may be expected to invest in cleaner production, renewable energy, wastewater treatment and reporting systems to meet buyer requirements. If these investments do not end up in improved prices, long-term sourcing commitments or financial support, environmental upgrading may create value for the lead firm while limiting suppliers' ability to capture value (Jensen & Whitfield, 2022).

The question of responsibility is also connected to value distribution. Khan et al. (2020) distinguish between environmental upgrading as a process and the economic outcomes that follow from it. Their study suggests that environmental improvements may generate benefits such as risk reduction, reputational value and improved sustainability performance, but that these benefits and costs are not necessarily distributed evenly between lead firms and suppliers. In apparel GVCs, suppliers may need to invest in environmental upgrading to maintain access to global markets, while the economic returns from these investments may remain limited. This makes value capture important for analysing sustainability governance, since environmental improvements can create value in the chain without ensuring that suppliers capture a corresponding share of that value.

Ponte (2022) explains the concept of *hidden costs* for analysing environmental upgrading because it shifts attention from sustainability outcomes to the distribution of costs and benefits within global value chains. Hidden costs refer to costs and negative consequences that are not visible in lead firms' sustainability narratives, but that may be transferred to suppliers, workers and local communities through sustainability requirements, compliance systems and purchasing practices. In environmental upgrading processes, lead firms may benefit from improved sustainability reporting and reduced risk, while suppliers are required to implement or finance new standards, technologies and reporting systems. This makes it relevant to analyse who pays for them and who captures the value created by them.

4. Methodology

This chapter presents the methodological approach used to analyse H&M's scope 3 emission governance and its relationship to garment manufacturing suppliers. The study is based on qualitative document analysis, supported by qualitative content analysis, since the aim is to examine how sustainability governance, supplier responsibility and environmental upgrading are framed across corporate and external sources. This approach is suitable because the study does not seek to measure emissions quantitatively, but to analyse how H&M's governance is presented, how supplier-related consequences are described, and how these perspectives can be interpreted through the theoretical framework. The chapter first presents the research design and explains the use of qualitative document analysis. It then describes the empirical material and source selection, which are organised into H&M's perspective and the supplier perspective. Thereafter, the chapter explains how the material was collected, read, organised and coded through a combination of deductive and inductive coding. The main analytical categories, power, responsibility, and value, were derived from the GPN framework, while more specific themes were developed during the analysis of the material. Finally, the chapter discusses the methodological limitations of the study, particularly the reliance on secondary data, the use of corporate and external sources, and the limited access to direct supplier-level information.

4.1 Empirical Material and Selection

The empirical material was organised according to the two analytical perspectives used in the findings chapter: H&M's perspective and the supplier perspective. The H&M perspective is based primarily on corporate reports, policy documents and corporate webpages published by H&M Group. These sources were selected and used to analyse how H&M presents its sustainability governance, scope 3 emissions, supplier requirements, purchasing practices and value chain responsibility. External materials were included to contribute to the understanding of H&M's supplier governance and the consequences of sustainability requirements for garment suppliers, including sources that use Bangladesh as a recurring production context. The supplier perspective is based on external material such as NGO reports, media and industry articles. These sources were selected to examine how H&M's supplier governance and sustainability requirements are perceived outside the company's own reporting, particularly in relation to supplier dependency, environmental responsibility, cost distribution and consequences for garment workers. The empirical material is presented in Table 4.1.

Table 4.1: Empirical material and source selection used in the analysis

Perspective	Name of source	Type of material	Analytical contribution
H&M Perspective	Conscious Actions Sustainability Report 2015 (H&M Group, 2016)	Corporate report	Used as a comparison to examine how H&M's framing of sustainability, shared value, human rights and supplier responsibility has developed the last 10 years
H&M Perspective	H&M Group Annual and Sustainability Report 2025 (H&M Group, 2026a)	Corporate report	Used to analyse H&M's reporting on scope 3 emissions, climate targets, environmental data, supplier decarbonisation, value chain governance and responsibility
H&M Perspective	H&M Supply Chain (H&M Group, n.d.-c)	Corporate website material	How H&M presents its supplier network, supply chain tiers
H&M Perspective	Purchasing Practices (H&M Group, n.d.-b)	Corporate webpage	To examine how H&M frames its purchasing practices as supporting production planning, reducing pressure on factories and contributing to safer and healthier working conditions.
H&M Perspective	Sustainability Commitment: H&M Group Business Partner (H&M Group, 2022)	Corporate policy	Used to analyse the formal requirements placed on suppliers, including emissions reporting, wastewater treatment, chemical management, circularity, waste handling, compliance and sustainability data sharing
H&M Perspective	Sustainable Impact Partnership Program (H&M Group, n.d.-d)	Corporate webpage/supplier programme	How H&M governs suppliers through standards, assessments, monitoring, minimum requirements, capacity-building and follow-up procedures.
Supplier Perspective	Asia Floor Wage Alliance report on H&M supplier factories (Asia Floor Wage Alliance, 2018)	NGO report	Used to analyse worker-level consequences in H&M-connected supplier factories, including production pressure, gendered labour conditions, harassment, weak complaint mechanisms and power relations inside factories.
Supplier Perspective	Business & Human Rights Resource Centre article/report (BHRC, 2026)	NGO article	External criticism of how climate transition costs may be shifted to suppliers and workers, through requirements and limited financing
Supplier Perspective	Global Textile Times article on H&M sourcing strategy (Global Textile Times, n.d.)	Media article	Contextualises H&M's sourcing flexibility, supplier consolidation and price strategy, and how these may increase pressure on suppliers to meet cost and efficiency requirements
Supplier Perspective	Lindberg article on H&M factories in Bangladesh (Lindberg, 2022)	Media article	Investigation in wastewater pollution, weak environmental enforcement and the difficulty of assigning responsibility for pollution in shared industrial production areas in Bangladesh
Supplier Perspective	Saxena article on garment workers and living wages (Saxena, 2023)	NGO article	Analyses wage pressure in Bangladesh and how buyer setting prices may affect suppliers' ability to improve wages and working conditions
Supplier Perspective	Uddin article on H&M's restructuring in Bangladesh (Uddin, 2023)	Media article	Used to analyse how H&M's restructuring and sourcing decisions may transfer more operational responsibility to suppliers and reduce the bargaining position of smaller factories
Supplier Perspective	Wren article on H&M supplier requirements and SIPP (Wren, 2022)	Critical article	Used to examine how H&M's sustainability requirements and monitoring systems may shift implementation and reporting responsibilities onto suppliers

Source: Author's own compilation based on the sources listed in the table

Table 4.1 includes the material that forms the main basis of the analysis and is alphabetically organised into four columns: analytical perspective, name of source, type of material, and analytical contribution. Additional sources were also used to provide contextual information or strengthen perspectives. These sources are included in the reference list and are not presented in the table.

4.2 Data Collection and Analysis

A qualitative content analysis was chosen because it allows for a systematic examination of how sustainability, emissions, responsibility and supplier governance are framed across different types of documents. More specifically, the study follows a qualitative content analysis with a combined deductive and inductive coding strategy. The main analytical categories, power, responsibility, and value, were derived deductively from the theoretical framework. At the same time, more specific subcategories were developed inductively during the reading of the material, as recurring themes and tensions appeared in the documents. These subcategories are described further in section 4.2.1, where the search terms and coding process are presented. This approach was suitable for the study because the aim was not to measure emissions quantitatively, but to analyse meanings, patterns and recurring themes in the material from H&M and external sources. The study relies on publicly available documents, including corporate reports, policy documents, webpages, NGO reports and media articles. In line with Schreier (2019), the coding framework was developed to represent the meaning of the material in a valid way. The analysis therefore combined theory-guided categories from the GPN framework with subcategories that emerged during the reading of the documents. The analysis followed a chronological process. First, the material was organised according to the two analytical perspectives used in the findings chapter: H&M's perspective and the supplier perspective. H&M Group's official website was examined to identify corporate reports, policy documents, and webpages directly connected to sustainability governance, supplier requirements, environmental actions, purchasing practices, and scope 3 emissions. Second, external sources were identified through databases and search platforms, including Google Scholar, Finn, Scopus, and Google. These searches were used to find material concerning supplier conditions, garment manufacturing, environmental upgrading, cost distribution, and external criticism of H&M's supplier governance. Some additional sources were also identified through a snowball process, where references, organisations, reports, or concepts mentioned in

one source led to further relevant material. Third, the selected material was read and assessed in relation to the research question and the analytical categories developed from the theoretical framework. The search terms, described in section 4.2.1, were used during this process as a practical tool for structuring the reading and keeping the analysis connected to the study's focus. Finally, the material was coded according to the three main categories of power, responsibility, and value. The purpose of the coding was to organise the material and compare how similar issues were framed across H&M's perspective and the supplier perspective. This made it possible to identify patterns, differences, and tensions between the two perspectives, which later formed the basis for the empirical findings and discussion.

4.2.1 Search Terms and Coding Process

The coding process was structured around the three main analytical categories of the study: power, responsibility, and value. These categories were derived from the theoretical framework and used as deductive entry points for organising the material. Since the study examines sustainability governance in relation to scope 3 emissions, an environmental focus was also used throughout the reading process. This made it possible to identify material related to emissions, climate targets, environmental requirements, supplier decarbonisation, and other sustainability practices in the value chain. To make the selection and navigation of material more systematic, search terms were developed for each analytical focus, as presented in Table 4.2.

Table 4.2: Search terms used to identify relevant material in the document analysis

Analytical focus	Search terms	Purpose in the analysis
Power	Governance, ownership, standards, audits, monitoring, supplier assessment, data systems, purchasing practices, dependency, workers' conditions and health	How H&M influences suppliers and how governance pressures may affect suppliers and workers
Responsibility	Responsibility, shared responsibility, supplier responsibility, partnership, accountability, transparency, agreement, requirements	How accountability was framed and assigned among H&M and its supplier connected to emissions
Value	Costs, investments, financing, price pressure, volume pressure, upgrading, downgrading, risk, exclusion, value capture	How costs, risks and benefits were distributed across the value chain and how this affected environmental action
Environment	Scope 3 emissions, climate targets, energy use, water use, wastewater treatment, chemical management, pollution, circularity, recycling, innovation, waste, supplier decarbonisation	How H&M and external stakeholders described environmental work and sustainability requirements in the value chain

Source: Author's own compilation based on the analytical categories developed from the theoretical framework

The search terms were used during the reading of the material as a practical tool for structuring and organising the analysis. They helped maintain a consistent focus on the study's analytical categories while reading different types of documents, including corporate reports, policy documents, NGO reports, media articles, and industry sources. The terms were not treated as fixed coding categories, but as guiding concepts that supported the identification of relevant patterns connected to power, responsibility, value, and environmental governance. This allowed the analysis to remain connected to the theoretical framework while also leaving room for new themes and tensions to emerge from the empirical material.

4.3 Limitations

An important limitation of this study is its reliance on secondary data. Secondary data refers to data that were originally collected for purposes other than the specific research questions of this study (Boslaugh, 2007). As a result, the material may not fully correspond to the analytical focus of this thesis, and potential limitations related to selection, framing and methodological transparency must be considered. Since the data were collected by other researchers, organisations or companies, the study has limited control over how the original data collection was conducted and whether the material may be affected by biases (Johnston, 2014). This does not make the material unsuitable, but it requires a reflective approach to how the sources are selected and compared. In this study, the secondary data such as NGO and media reports, were particularly important due to the limited possibility of gaining direct access to H&M's suppliers and production sites. Since the suppliers involved in garment production could not be physically visited or directly observed, previously documented observations, reports, and experiences were used to gain insight into working conditions and the broader production context. While the use of secondary data entails certain limitations, peer-reviewed articles and established reporting sources can strengthen the credibility of the material, as they are often subject to some form of quality control (Bryman, 2006). The analysis therefore considers the origin, purpose, scope and potential limitations of each source when assessing its relevance for the study.

The use of corporate sources was not treated as a methodological weakness in itself, but as an important part of the empirical material. Since one aim of the study is to analyse how H&M frames sustainability, responsibility and supplier governance, H&M's own material were analysed as expressions of the company's perspective. However, these sources were analysed with an awareness that corporate communication may involve strategic framing, selective

emphasis and reputational concerns. This means that H&M's material was not treated as a neutral or complete account of the value chain, but as a source for understanding how the company presents and justifies its sustainability governance. To contextualize this understanding in relation to other accounts, the study also included NGO reports, media articles concerning suppliers and garment production contexts. These sources provide an external perspective on how sustainability requirements, purchasing practices and supplier responsibility may be experienced or criticised outside H&M's own reporting. At the same time, external sources are also not treated as fully objective descriptions of the reality. NGO reports and media articles may focus on specific cases, problems or critical perspectives, and they may not have access to information of the full supply chain. The study therefore does not assume that either H&M's perspective or the external supplier perspective provides a complete view of the entire value chain. Instead, the comparison between the two perspectives is used to identify tensions, contradictions and differences in how power, responsibility, and value are presented.

Access to detailed information about all of H&M's individual suppliers has been limited. Although H&M publishes a supplier list, the large number of suppliers across different countries, production stages, and product categories made it difficult to examine all suppliers involved in garment manufacturing. The study therefore does not attempt to provide a complete overview of H&M's supplier network. Instead, the supplier perspective is based on external material concerning H&M's supplier governance and garment production contexts more broadly. Within this material, Bangladesh appears as a recurring production context, since several of the sources used in the study discuss H&M-connected factories, garment manufacturing, working conditions, or environmental issues in Bangladesh. Bangladesh is therefore used as an illustrative context within the supplier perspective, rather than as a full country case study or as the only empirical focus of the analysis. In addition to sources directly connected to H&M, the study also includes broader material on garment manufacturing in Bangladesh and Asia when this contributes to understanding supplier dependency, working conditions, environmental responsibility, and cost distribution in the production contexts where H&M's suppliers operate. These sources are not treated as representative of all H&M suppliers, but as contextual material that helps identify tensions between H&M's corporate reporting and external accounts of supplier-related conditions.

5. Empirical Findings

This chapter presents the empirical findings on H&M's sustainability and environmental governance in relation to scope 3 emissions and its garment manufacturing suppliers. The findings are structured around two perspectives. The first part examines H&M's own reporting, policies and corporate material to show how the company presents its sustainability governance, supplier requirements, environmental data and responsibility across the value chain. The second part presents the material of the supplier's perspective, including NGO reports, media articles and industry sources, to examine how H&M's governance may be experienced or criticised from the perspective of suppliers, workers and production contexts. Together, these perspectives provide the empirical basis for analysing how power, responsibility, and value are distributed between H&M and its suppliers.

5.1 H&M's Perspective

This section presents H&M's perspective on sustainability governance, environmental operations, and supplier responsibility. It examines how H&M describes its supplier network, climate targets, and sustainability requirements, and how these are connected to power, responsibility, and value in the production network. The section provides insight into how H&M presents its role as a lead firm that does not own production, but still sets climate targets, supplier requirements and sustainability programmes that suppliers are expected to follow through reporting, data sharing and follow-up processes.

5.1.1 Power in H&M's Sustainability Governance

The garment value chain is often described as a buyer-driven value chain, where multinational retailers are typically located in the Global North, with a production network of suppliers typically located in exporting countries of the Global South. The fast-fashion value chain is a specific value chain which Tokatli (2008) refers to a business model where apparel retailers pick up the latest trends and transform them into affordable products for the mainstream consumer market. H&M is an example of a fast-fashion brand that designs its own products. Since 1947, the company has outsourced production, making it a customer of locally owned or multinational garment manufacturers, especially in Asia and Europe (H&M Group, n.d.-c). H&M's emphasis on long-term relationships, trust, and transparency can be understood as part of its governance strategy within the network. As many other apparel brands, H&M does not

own any factories, instead it collaborates with independent manufactures. Since 2013, H&M has published its supplier list of the supply chain, which signals an attempt to increase transparency and legitimacy. The supplier list updates quarterly and includes information of manufacturing and processing factories, responsible for 99 percent of the brands sold products at the market. The list includes details such as country, factory name, address, supplier name, relation with factory, years with H&M, factory type, product type, material certification, number of workers, percent of female workers, and trade union exists (H&M Group, n.d.-c). The structure of the factories is owned and manage from small business with a small number of employees to large operations employees' teams of thousands of workers (H&M Group, n.d.-c). As illustrated in figure 5.1, the products evolve through different levels of suppliers from raw material to finished items. The supply chains vary depending on product type and material as some chains are collaborating vertical with a few tiers, while some are horizontal and comprise several tiers. Tiers 1 involve companies who work with product manufacturing or processing that H&M directly do business with, while companies working with component production and processing fall into tiers 2 to 4, and raw material production falls into lower tiers 4 to 6 (H&M Group, n.d.-c).

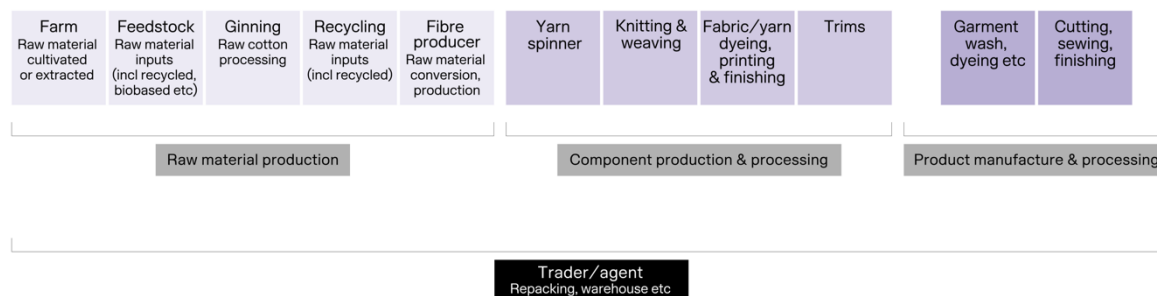


Figure 5.1: H&M's garment supply chain with starting of raw material production. The figure illustrates how H&M's garment supply chain is structured across multiple stages, from raw material production to final garment manufacturing and processing. It shows that H&M's supplier governance is not limited to direct tier 1 relationships but also depends on coordination with actors further upstream in the value chain.

Source: H&M Group. (n.d.-c).

The manufacturing factories are either owned or contracted by H&M's suppliers and could also be named as "cut and sew" or tier 1 factories. A single supplier, as a lead supplier, can own or contract one or more factories. The processing factories are subcontracted by its suppliers, sometimes by several, to carry out processes they cannot produce by themselves (H&M Group.

n.d.-c). This means that H&M's supplier governance operates across different levels of supplier relationships. While H&M has direct business relationships with tier 1 suppliers, lower-tier suppliers and subcontracted processing factories may be reached more indirectly through lead suppliers, supplier requirements, and monitoring systems. To keep the transparency across the supply chain, H&M states on its website that its suppliers must sign and comply with the Sustainable Impact Partnership Programme (SIPP) that defines the applicability of its sustainability requirements before starting any business relationship with a new supplier. H&M claims that it expects each business partner to take responsibility for their sustainability agenda and drive environmental and social operations. It also says they conduct follow-up assessments at a defined cadence to ensure the minimum requirements continue to be sustained (H&M Group, n.d.-d).

H&M has used industry collaboration tools such as Higg Facility, developed by the nonprofit alliance Cascale, previously known as the Sustainable Apparel Coalition, to assess performance and management systems in its supply chain. These tools have been used in the apparel and consumer goods industries to measure the environmental performance of facilities in areas such as water use, waste management, chemicals, and energy use (Worldly, n.d.). The purpose of the module was to identify strengths and areas for improvement, reduce duplication, and create a common language for communicating sustainability performance to stakeholders. The Higg tools also included a scoring system, where different areas received section scores that could be used to identify improvement opportunities, establish performance baselines, compare facilities, identify hotspots, and track improvements over time (Cascale, n.d.-a). In H&M's supplier monitoring, these tools have included modules such as the Higg Facility Environmental Module (FEM) and the Facility Social Labour Module (FSLM). For factories not covered by Higg tools, H&M applied a risk-based approach to monitor compliance among business partners, with different levels and methods of evaluation depending on factors such as country, risk, and the type of goods or services provided. This also included annual minimum requirement assessments conducted by internal teams or nominated third parties (H&M Group, n.d.-d). The FSLM was used to evaluate social and labour conditions in facilities producing garments, textiles, and footwear, including areas such as recruitment, working hours, wages, employee treatment, health and safety, termination, and management systems (Cascale, n.d.-b). In H&M's Sustainability Report from 2025, data on health and safety committees in first-tier production units are still reported as verified through FSLM assessments, indicating that Higg-

related tools continue to be relevant in parts of H&M's supplier monitoring (H&M Group, 2026a). While H&M has changed parts of its emissions calculation methodology, this mainly concerns scope 3 emission accounting rather than supplier monitoring and is therefore discussed further in section 5.1.2.1. The relevance of these tools for this study is therefore not the exact level of factory participation, but how they form part of H&M's broader system for measuring, comparing, and following up supplier performance.

H&M describes on its website that verified assessments, such as annual surveys and performance tools, are used to identify supplier compliance, risks, and areas for improvement. They also provide support through capacity-building workshops, training, and management system analysis, an approach that includes both sustainability and business performance. Also, suppliers are encouraged to develop their own strategies and solutions, supported by incentives to drive positive change (H&M Group, n.d.-d). In H&M Sustainability Report 2025, the company explains the importance of using dialogue to understand how workers and local communities within the value chain are affected. The communication with groups is built on trade unions, partnerships, civil organisations, and multi-stakeholder initiatives with the purpose of dialogues to help H&M identify negative impacts, protect human rights and improve working conditions (H&M Group, 2026a). During year 2025, H&M continued to monitor possible breaches of its anti-corruption and anti-bribery standards through established internal procedures. All reported breaches of the Code of Ethics, including cases involving corruption or bribery, were assessed and investigated internally according to the company's compliance protocols. H&M reported no legal convictions and no fines related to breaches of anti-corruption or anti-bribery laws during the year. Meanwhile, the company documented two internally confirmed cases of corruption and bribery and were investigated through H&M's internal procedures and reported. The confirmed cases resulted in corrective actions, strengthened internal controls, and targeted training, but did not lead to reported legal convictions or financial penalties in 2025 (H&M Group, 2026a).

To compare with the development of sustainability reporting, H&M had already framed supply chain responsibility through the idea of "shared value" 10 years ago, in its Sustainability Report from 2015. The company connected long-term business success to healthy ecosystems, stable markets, respect for human rights, and improved livelihoods in the communities where it operated. It also described its role as using its influence to promote human rights, education,

training, and environmental awareness among suppliers, workers, and actors further down the value chain. In contrast to the 2025 report, the 2015 report presents responsibility in a broader and less technical way, focusing more on partnerships, community development, and positive social and environmental impacts than on detailed metrics and supplier requirements. H&M also reported that it carried out a process in 2015 to identify salient human rights issues in line with the UN Guiding Principles Reporting Framework. This included mapping potential and actual impacts across its value chain, with particular attention to vulnerable groups such as migrant workers, children, and women. The issues identified among others fair living wages, health and safety, forced labour, discrimination and harassment, collective bargaining, social security, working hours. This exemplifies that H&M had already recognised that its value chain could be connected to labour-related risks and wider community impacts (H&M Group, 2016). This comparison suggests that the framing of responsibility has become more formalised over time, moving from broad commitments to more measurable and operational forms of supplier governance.

5.1.2 Responsibility in H&M's Reporting and Environmental Operations

Although H&M does not own the factories, suppliers remain subject to the company's requirements, and failure to comply may result in the termination of the business relationship. At the same time, H&M presents this governance approach in a more supportive way by emphasizing capacity-building workshops, training initiatives, and grievance mechanisms through which suppliers and workers can raise concerns. H&M further emphasizes the importance of grievance mechanisms and worker voice, ensuring that workers can report concerns. In addition, they outline that it conducts comprehensive due diligence processes to identify, prevent, and address human rights and environmental risks, and may terminate supplier relationships in cases of severe non-compliance or lack of corrective action (H&M Group, n.d.-d). H&M claims that its purchasing practices support production planning, reduce pressure on factories, and help create a safe and healthier workplace. They mean that this could enable an environment where working conditions and human rights are respected with an effective planning that reduce the risk of excessive overtime, delayed wage payments, and health and safety violations (H&M Group, n.d.-d). While being business partner with H&M, the partner is asked to sign the Sustainability Commitment, where both sides know what to expect from the other party to create a deeper and effective relationship to achieve innovation, positive

environmental impact, circularity, dialogue, fairness, and equality (H&M Group, 2025). If a supplier may be phased out if H&M's capacity, capability changes, poor quality performance, or the supplier fails to meet the requirements of H&M's Sustainability Commitments, the business relationship with the supplier must end (H&M Group, n.d.-c). In the Commitment agreement, H&M states that sharing sustainability data is part of its work to monitor sustainability performance and expect the business partner to do the same. H&M also explains that the requirements in its Sustainability Commitment are based on internationally recognised standards, including the Universal Declaration of Human Rights, the International Labour Organization's Declaration on Fundamental Principles and Rights at Work, and relevant UN and ILO conventions. The company further states that the requirements reflect its commitment to the UN Guiding Principles on Business and Human Rights and the OECD Guidelines for Multinational Enterprises. In relation to climate and environmental responsibility, H&M states that it is aligned with the goals of the Paris Agreement and follows the GHG Protocol and the Science Based Targets initiative (SBTi) Business Ambition for 1.5°C (H&M Group, 2022).

Further on, the Commitment states that partners must have management systems that integrate the Sustainability Commitment, applicable laws, and international standards into their daily business practices. These systems should be adapted to the size, complexity, and risk level of the business, and support human rights and environmental due diligence. To address the environmental impact, H&M claims it is crucial to change the linear model "where we take, make and waste" to a circular model where the value of products and resources are maximised by reusing and repairing and later recycle them. They expect the partners to have a strong commitment to reduce their environmental footprint. By mention some of the Commitment points, it is recommended that GHG emissions are calculated and reported according to the GHG Protocol and reduction targets are set that align with the SBTi (H&M Group, 2022). Later, to identify actual and potential sources of GHG emissions, H&M review its business activities and plans across the entire value chain, following the GHG Protocol. This process included relevant emission sources in the company's yearly emissions inventory and was supported by an external expert. It was also reviewed by the SBTi as part of H&M's climate target validation (H&M Group, 2026a). To prevent and mitigate negative impacts on water resources the partners shall ensure that all industrial wastewater is being treated and measured. The water withdrawals to be measured and reported quarterly and water used in wet production must be metered separately, including water used in utility processes such as boilers, coolers, cooling towers,

and chillers. Metering at machine or process level is also recommended to improve water efficiency. To ensure that products are safe to manufacture, H&M Group (2022) states that partners must have documented procedures for chemical purchasing to prevent the use of restricted or banned substances. Also, suppliers should maintain an updated chemical inventory, and ensure that all chemicals are stored, handled, used, and disposed of according to the relevant Safety Data Sheets. H&M also refers to initiatives such as the Zero Discharge of Hazardous Chemicals (ZDHC) Foundation and the Microfibre 2030 Commitment as part of its work to reduce hazardous discharges, microfibres, and microplastics (H&M Group, 2026a). Lastly stated in the Sustainability Commitment, business partners shall promote circularity by reducing waste, improving material efficiency, and decreasing the use of virgin raw materials. Waste streams must be tracked with targets and action plans for increasing reuse and recycling. H&M also requires partners to prevent waste from ending up in landfill and to ensure that hazardous waste is handled by authorised companies. For goods produced for the H&M concern, waste data must be reported through H&M's nominated digital platforms. Textile waste should never be sent to landfilled, incinerated, or disposed of in ways that may cause negative environmental impacts, and should be sorted to enable high-value recovery (H&M Group, 2022). The production of garments might affect local communities and H&M Group (2026a) discusses affected communities as local groups living in or near areas influenced by the company's value chain, including activities such as raw material extraction, manufacturing, and waste handling. It notes that its ambition is to respect human rights land rights, while also reducing negative impacts on people and the environment in these communities. By keeping relationships with communities, the purpose is to identify potential and actual negative impacts, especially in relation to land use and clean environments.

H&M's Environmental Data from the Sustainability Report 2025

In H&M's Annual Sustainability Report 2025, many of the phrases and claims are repeated or similar as at its websites and in other documents such as the Sustainability Commitment. Progress towards the climate targets and long-term business goals is monitored quarterly by company management to ensure that climate actions remain part of the company's strategic direction. The board of H&M Group also receives annual updates on climate progress and key investments related to the climate transition plan. Responsibility for carrying out these actions is included in relevant business functions to support coordination between business and climate goals and to ensure that necessary resources are allocated.

However, during the year of 2025, H&M claims in its report that its absolute scope 3 emissions declined by 34.6 percent compared to 2019 data (H&M Group, 2026a, p.7). H&M states that its sustainability reporting is based on a combination of primary data, secondary sources, and modelled data. When direct measurements are not available, particularly in parts of the value chain, the company uses estimates and proxy measures based on recognised industry initiatives, supplier data, independent data providers, or conservative assumptions. In a footnote, it is explained that the calculation of scope 3 emissions was based on 26 percent primary data. However, it is not stated how the remaining percentage of the data was calculated. H&M identifies the measures with the highest measurement uncertainty as scope 3 emissions, due to modelling complexity, and waste generated in its own operations, due to limited downstream traceability. Some sustainability data is uncertain because it cannot always be measured directly. This applies especially to parts of the value chain where the company depends on supplier data, external data sources, and calculated estimates. The uncertainty may be linked to how much data suppliers provide, which emission factors are used, how impacts are divided between different materials in products and packaging, and assumptions about how products are used and handled after use. H&M explains in the report that some figures with 2024 data were corrected or recalculated in the 2025 report due to identified errors, adjusted reporting periods, and updated methods for estimating scope 3 emissions, also, figures are presented alongside these results (H&M Group, 2026a, p.63). According to the previous section 5.1.2, business partners should be using chemical listed in ZDHC MRSL and in 2025, 92.6 percent of chemicals in Tier 1 and 2 production units were assured to meet these ZDHC MRSL requirements. Further, in the report, H&M claims 100 percent of Tier 1 and 2 factories with discharged water quality meets the ZDHC wastewater guidelines (H&M Group, 2026a, p.60-61). In the report, H&M maintains several activities across the value chain contribute to climate change through the GHG emissions and states it is taking action to address these impacts and reduce emissions throughout its operations in the chains. To achieve the goals of reduce scope 3 emissions until 2030 and 2040, H&M plans to improve energy efficiency and increase the use of renewable energy in its suppliers' facilities. This includes supporting suppliers with energy assessments, cleaner technologies and financing solutions. The purpose is to lower energy use, enable electrification, reduce costs for suppliers and decrease emissions. H&M also works with suppliers across the value chain to phase out all use of coal by 2026 and provides financial

support for actions that reduce GHG emissions in its garment supply chain (H&M Group, 2026a).

A further important aspect of H&M's 2025 environmental data is that the company has updated parts of its GHG calculation methodology. In previous reporting, H&M relied on Higg MSI emission factors to calculate emissions from fabric production and garment manufacturing. In the 2025 report, however, H&M explains that it has moved to Apparel Impact Institute's (Aii) Energy and Carbon Benchmark V1.0 for fabric production and garment manufacturing within scope 3 category 1. According to H&M, this method provides a more process-specific estimate of energy use and only includes energy consumed on-site at suppliers' factories. As a result, the reported energy use and related emissions are significantly lower than under the previous method. H&M argues that this gives a more accurate representation of energy consumption and emissions, but it also means that the figures are affected by methodological changes and are therefore not fully comparable with earlier reporting based on Higg MSI. At the same time, H&M has not stopped using Higg-related data entirely, as Higg is still used in other parts of the calculations, such as raw material production, non-apparel goods and packaging. The report also explains that some figures with 2024 data were corrected or recalculated in the 2025 report due to identified errors, adjusted reporting periods and updated methods for estimating scope 3 emissions (H&M Group, 2026a).

5.1.3 Value and Cost Distribution in H&M's Supply Chain

H&M describes its work with value creation and cost reduction in the value chain as closely connected to a transition towards a more circular business model. The company states that its ambition is to separate business growth from increased resource use and extraction by reducing its dependence on critical and finite resources. This is mainly addressed through a stronger focus on recycled and sustainably sourced materials, improved product quality, increased recyclability, and services that extend the life of products, such as second-hand sales. The company also connects these efforts to several parts of its value chain, among other in material sourcing and waste management. By increasing the use of recycled and sustainably produced materials in products and packaging, H&M aims in its Sustainability Report 2025 to reduce its dependence on raw materials such as cotton, polyester, wool, leather, paper, and plastic. Since the production and processing of these materials contribute to the depletion of natural resources, H&M states that it monitors the environmental impact of materials and explores alternative

materials that can support the transition. At the same time, H&M Group (2026a) presents waste management as an important part of reducing costs and risks in the value chain. Waste is generated throughout the chain, from raw material extraction to the disposal of products and packaging. If waste is not handled correctly, it can lead to environmental harm and the loss of valuable raw materials. H&M therefore outlines that it works to redirect waste from disposal towards reuse and recycling and minimise landfill in line with the EU waste hierarchy. These actions may contribute to better resource efficiency and reduce the loss of materials that still have economic value.

Cost reduction is also linked to regulatory and operational risks. H&M identifies stricter rules on products and packaging waste as a potential risk, since non-compliance can result in financial penalties, product-related fees, legal consequences, and higher costs. To reduce this risk, the company states that it invests in innovative solutions and new technologies for improved waste management, follows changes in legislation, and develops processes to ensure compliance and operational efficiency. Overall, H&M presents value creation and cost reduction as connected to resource efficiency, circular business models, compliance, and the ability to retain material value throughout the supply chain (H&M Group, 2026a. p.88).

Another category of fashion retailers, “ultra-fast” online retailers, are setting new standards within value chains responsiveness and flexibility with a broader range but a smaller number of products that saves costs by working with minimum inventories. With the growing online sales and increasing competition from ultra-fast fashion retailers, it has become strategically essential for traditional fast fashion actors such as H&M to further integrate its online and offline sales channels, while also improving the speed, flexibility, and cost-efficiency of their supply chains. In response, many established fast fashion retailers have in recent years implemented a range of measures to restructure their supply chain coordination, retail and logistics operations, and supplier networks (López et al., 2021). To achieve profit in the fast-fashion industry, many brands are reliant on low-cost labour in low-income countries such as Bangladesh, India, and China, called “offshoring”, where H&M also sources its garments (McCosker, 2025; H&M Group, n.d.-c). In Bangladesh, the garment industry has contributed to national economic growth and the country is expected to graduate from the UN’s Least Developed Countries list in 2026. At the same time, wage growth has been kept low to preserve Bangladesh’s competitiveness as a sourcing location for global brands (Saxena, 2023).

In an article from 2024, it is described that H&M’s planned investment in a wind farm is part of the company’s Green Fashion Initiative, which provides technical support and financing to suppliers seeking to reduce their emissions. Figure 5.2 illustrates how H&M Group frames transition financing as a way to support supplier decarbonisation across the value chain.

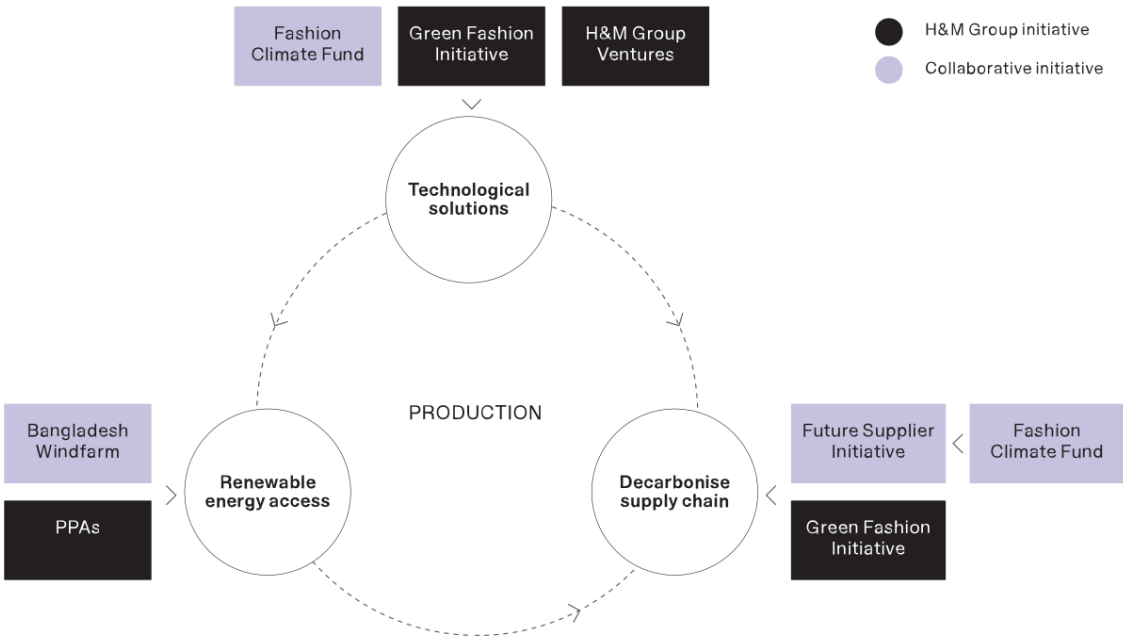


Figure 5.2: H&M’s reported transition financing initiatives. The figure illustrates how H&M presents financing as a way to support supplier decarbonisation. It shows the connection between emission reduction, supplier investment needs and the wider distribution of costs in the supply chain. Source: H&M Group. (n.d.-a).

It highlights the company’s focus on enabling investments in renewable energy, energy efficiency, and technology shifts that suppliers may otherwise find difficult to finance independently (H&M Group. n.d.-a). In this way, the figure supports the idea that H&M’s climate strategy depends not only on internal targets, but also on financial mechanisms that help suppliers move away from fossil fuels. H&M expanded these efforts by launching a financing program in collaboration with DBS, Southeast Asia’s largest bank. The program offers favourable loans to suppliers aiming to replace fossil fuels with more sustainable energy sources. By January 2023, H&M had funded 17 projects with a combined potential to reduce emissions by around 190,000 metric tons per year. Of this amount, around 50 000 metric tons were said to be directly linked to H&M’s own production (Clancy, 2024). In H&M Annual

Sustainability Report 2025, it describes its investments in technology, logistics, and supplier partnerships as part of its value creation. The company states that automated logistics centres, efficient distribution systems, AI-driven forecasting, and RFID technology help shorten lead times, improve delivery planning, and support production based on actual sales. H&M also explains that closer cooperation with fewer and stronger suppliers improves contract terms and allows the company to place higher demands on sustainability and quality. In relation to environmental value creation, H&M states that reducing GHG emissions in the value chain remains a priority. The company works with suppliers to support renewable energy, phase out fossil fuels, and improve energy efficiency. H&M also integrates sustainability targets into supplier partnerships and invests in logistics solutions such as solar panels and rainwater separation systems at distribution centres. In addition, the company invests in startups developing innovative materials, supporting its long-term aim to use only sustainably sourced textiles (H&M Group, 2026a, p.27). By investing in skills, technology, and robust processes, H&M aims to strengthen its resilience and protect its assets, interests, brands, customers, and employees. The company uses risk management strategically to identify needs and opportunities for innovation and expansion. Through framework and clear processes, risks are proactively identified and managed across the value chain, while a risk management system supports compliance, transparency, accountability, and ethical conduct (H&M Group, 2026a).

5.2 Suppliers' Perspective

This section presents the supplier perspective on H&M's sustainability governance and supplier requirements. It examines how garment manufacturing suppliers may be affected by H&M's sourcing practices, monitoring systems, environmental expectations, and cost pressures. The section focuses on supplier dependency, implementation responsibility, working conditions, and the economic consequences of environmental upgrading. It also considers how sustainability requirements may create value in the supply chain, while raising questions about whether suppliers and workers are able to capture this value. Together, this section illustrates how H&M's sustainability governance is reflected closer to production, where supplier requirements, cost pressure and environmental upgrading are connected to questions of dependency, responsibility, and value capture.

5.2.1 Power Constraints of Garment Manufacturing Suppliers

The buyer-driven globalization is a global production narrative about the power of corporate buyers, a multinational enterprise based in great economies in the end of supply chains. As Nguyen (2023) explains it as corporate buyers have superior leverage because of their economic influence, brand reputation, and access to consumer markets. As a result, they can control the terms of engagement across a large and complex network of global suppliers. This control is mainly exercised through private governance mechanisms, such as formal and informal obligations enforced through auditing and monitoring. In this view, suppliers are treated as isolated and fungible actors with limited influence over production. Since suppliers are also often associated with ethical and environmental issues, such as labour conditions or environmental harm, ensuring their compliance with buyers' standards and codes of conduct has become central to addressing governance gaps in global production.

During digital capitalism, lead firms are pressured to restructure their own value chain, from competition of new firms at the digital market with new technologies and an online market to set up digitally integrated, highly demand-driven and cost-efficient supply chains. Therefore, digital capitalism puts pressure on established lead firms in both producer- and buyer-driven GVCs to adapt their business models by integrating digital technologies and new ways of coordinating their supply chains (Brun et al., 2019). Firms have applied supply chain management (SCM) approach since the 1970s and 1980s where the introduction of barcode technologies allowed firms to collect data through the supply chain to customize the production according to the specific customer preferences (Bonacich, 2003). With new technologies, artificial intelligence and automation, these strategies have developed and allowing firms to enhance the collection, processing, analysing, and real-time synchronization of data across the supply chain. These changes have built highly flexible and responsive integrated online and offline supply chains aided by integrated among others, store management systems and digital data sharing with manufactories. The analysis of the increased importance of mutual data exchange and digital integration forces firms to establish closer and long-term relationships with suppliers. Some critical scholars caution against drawing overly hasty conclusions that closer relationships between lead firms and suppliers will lead to more balanced power relations or a fairer distribution of value within established global value chains. Instead, they argue that particularly in buyer-driven value chains, where smaller suppliers have traditionally been

dependent on larger buyers, the dominance of lead firms is likely to persist. Given their ability to set production conditions and terms of exchange, lead firms are likely to shift the costs of technological upgrading onto suppliers, while capturing most of the resulting benefits themselves (López et al., 2021). During the value chain restructuring of the 1990s and early 2000s, technology such as barcode scanners, computer-aided design and manufacturing, and electronic data interchange enabled retailers to adopt lean and quick response strategies. As part of this transformation, retailers increasingly shifted their sourcing activities to newly industrializing countries, particularly in Asia, to maintain low prices (López et al., 2021).

From a supplier perspective, H&M's restructuring in Bangladesh, as one of H&M's production countries, can be understood as part of broader pressure on garment manufacturers to adapt to changing buyer strategies and cost conditions. Uddin (2023) reported that H&M cut 46 people of its Bangladesh office colleagues as part of a wider effort to reduce operational costs during the global economic slowdown in 2023. The article also reported that H&M would no longer conduct product quality control inspections itself but instead leave this process to suppliers. Previously, these inspections had been carried out by H&M itself. This shift may increase the responsibility placed on suppliers, as they are expected to manage quality control internally while continuing to meet the buyer's standards. This could be show how suppliers may be required to take on more operational tasks within the value chain. At the same time, local entrepreneurs in Bangladesh expressed that H&M had gradually reduced orders from small and medium-sized factories and shifted towards larger suppliers to reduce the number of suppliers. For smaller and medium-sized manufacturers, such changes can create uncertainty and limit their bargaining power. If a major buyer reduces its supplier base or moves its orders to larger factories, suppliers may become more vulnerable to changes in sourcing strategies, order volumes, and compliance requirements. From this perspective, the supplier relationship is shaped not only by production capacity, but also by the buyer's ability to reorganise its supply chain, transfer responsibilities, and decide which factories remain included in future sourcing (Uddin, 2023).

A similar pattern can be understood as H&M's broader sourcing and pricing strategy. Global Textile Times (n.d.) describes how H&M has sought to maintain stable prices for consumers despite rising trade costs, tariffs, inflation, or weaker consumer demand due to uncertain periods in the market. Its strategy is connected to the company's aim to protect margins while remaining

competitive in a price-sensitive market. To manage these pressures, H&M has consolidated parts of its supplier network and shifted sourcing away from China towards more cost-efficient production countries, such as Bangladesh. From the supplier perspective, this illustrates how H&M can respond to external cost pressures by reorganising production geographically and selecting suppliers with greater scale, flexibility, and lower costs. While this may support H&M's competitiveness, it can also increase pressure on suppliers to meet price, capacity, and efficiency requirements in order to remain part of H&M's value chain (Global Textile Times, n.d.). This sourcing flexibility also can be connected to the economic pressures discussed in the following sections, where suppliers may be required to absorb costs related to wages, compliance, and sustainability investments while buyers seek to protect their own margins.

Workers' dependency

The structure of global garment value chains can place significant pressure on suppliers and workers when demand, prices, and production schedules change. Buyer purchasing practices may contribute to uncertainty in production, which can affect workers through contracts, periods of unemployment, pressure on wages, and intensified production targets. Limited freedom of association and weak collective bargaining can further reduce workers' ability to negotiate working conditions are some of the consequences reported by Asia Floor Wage Alliance (2018). Findings of H&M-connected supplier factories have also raised concerns about working conditions and workplace violence. In one documented case from an H&M factory in India, women workers described physical and verbal abuse connected to pressure to meet production targets. The case illustrates how production pressure can be transferred down the supply chain and experienced directly by workers on the factory floor. The report also highlights the gendered structure in the garment production. Women workers are often concentrated in lower-paid production roles, such as machine operators, checkers, line tailors, and helpers, while management and supervisory positions are more often held by men. This pattern is common across garment-producing countries in Asia. From a supplier and worker perspective, this means that cost pressure, production targets, and weak worker representation can have particularly strong consequences for women, who are a majority of garment workers, employed in the garment industry (Asia Floor Wage Alliance, 2018).

Moving on, the report also identifies that workers in H&M's factories have reported health problems connected to long working hours, repetitive tasks, and unsafe working conditions.

Also, several forms of gender-based violence and harassment including unwanted sexual advances, inappropriate physical contact, pressure to spend time with managers outside working hours, and threats of dismissal when women refused such advances. In one case from a supplier factory in Dhaka, Bangladesh, a woman in a lower management position reported that she was dismissed after rejecting a manager's inappropriate behaviour and that neither the factory's human resources nor the police provided an effective way to report or address the issue (Asia Floor Wage Alliance, 2018). Power relations inside supplier factories can increase women workers' vulnerability to harassment and retaliation. In some of the factories, male supervisors have control over work allocation, production lines, overtime, night shifts, breaks, and leave. This creates situations where women workers may be pressured or punished through everyday management decisions. For example, women can be moved between production lines, given additional overtime, denied breaks, or threatened with dismissal if they resist inappropriate behaviour or challenge supervisory authority. Women workers reported being shouted at, insulted, intimidated, and threatened with dismissal when they failed to meet production targets or made mistakes. This suggests that production pressure can affect workers not only physically, but also through stress, fear, and verbal harassment in the workplace. These conditions show how gender-based violence and harassment are connected to the organisation of work inside H&M garment factories. Sexual harassment, retaliation, misuse of supervisory power, and weak complaint mechanisms can limit women workers' ability to report abuse or negotiate safer working conditions. This is particularly important in garment production, where many women are employed in lower-paid production roles while management and supervisory positions are often held by men (Asia Floor Wage Alliance, 2018).

5.2.2 Responsibility Placed on Suppliers

By several references, H&M are the largest buyer of garments produced in Bangladesh (Textile Focus, 2024; Lindberg, 2022). The article by Lindberg (2022) can illustrate how the environmental law in Bangladesh requires since 2010 that factories that dye and wash garments must clean and treat their wastewater, despite any treatment facilities or licence being granted. While the H&M costumers ensure that garments are produced in a sustainable way by factories that respect people and the environment, polluted water continues to be discharged from factories in Bangladesh. At one of H&M's supplier factories, wastewater was reportedly discharged through a closed drainage system into a nearby river, where it mixed with effluents

from surrounding factories (Lindberg, 2022). In contrast to this allegations, H&M claims that its purchasing practices reduce pressure on factories and contribute to safer and healthier working environments. The company further suggests that these practices create conditions in which human rights are respected and risks such as excessive overtime and health and safety violations are minimized (H&M Group, n.d.-c). Major local environmental consequences in Bangladesh, including heavily polluted water near garment production sites. These example concerns wastewater that is discharged into shared waterways, where pollution from multiple factories becomes mixed, making it difficult to attribute specific emissions to individual producers. This illustrates a broader problem in outsourced production networks, that environmental harm may be visible, while responsibility remains difficult to trace. The situation is further complicated by weak regulatory capacity where thousands of factories in Dhaka are overseen by only 30 inspectors, who reportedly lack sufficient knowledge, equipment, and institutional support, while also operating in a context marked by corruption. In addition, the close relationship between the garment industry and political actors, several of whom reportedly own factories themselves (Lindberg, 2022), raises questions about the neutrality and effectiveness of environmental enforcement.

Wren (2022) describes how H&M's sustainability work includes requirements pushed on suppliers through its Sustainable Impact Partnership Programme (SIPP). When H&M, in 2019, reported that all suppliers had implemented SIPP practices to some degree, while five suppliers were removed due to non-compliance. At the same time as suppliers are expected to implement the required practices, Wren (2022) notes that H&M's monitoring partly relies on self-assessments, which means that suppliers are involved not only in implementing sustainability measures but also in reporting their own performance. The article also notes that H&M's reporting has focused more clearly on its own direct emissions, such as scope 1 and scope 2, rather than on scope 3 emissions. Also, H&M did not provide the same level of detail on scope 3 emissions or year-on-year progress in this area. From a supplier perspective, this could mean that suppliers are pushed for sustainability requirements and expected to contribute to environmental improvements, while the reporting on *how* supplier-related emissions are reduced remains less clearly specified and do not explain how H&M are responsible (Wren, 2022).

A more recent NGO perspective further strengthens this perspective by investigate in how responsibility for the green transition may also be shifted onto suppliers. Business & Human Rights Resource Centre (BHRC, 2026) provides perspective on how H&M's green transition may place responsibility on suppliers in Bangladesh. The article notes that H&M co-develops carbon intensity roadmaps with key suppliers, monitors renewable electricity use at factory level, and works to improve access to renewable energy. However, BHRC (2026) argues that these initiatives do not fully address structural barriers such as limited renewable energy infrastructure and constrained supplier financing. Importantly, no responding brand, including H&M, confirmed paying a higher price for garments produced in green-certified factories or by suppliers that achieve emissions targets. This illustrates how suppliers might be paying for reducing emissions themselves, even though they are pressured to keep prices low (BHRC, 2026). Overall, this indicates that while H&M has initiatives to support supplier decarbonisation, external NGO criticism suggests that the financial and practical responsibility for implementation may still be shifted onto suppliers and workers.

5.2.3 Environmental Upgrading under Economic Pressure

Ponte (2022) means that sustainability management in business provides new venues of value creation, can redistribute and give new opportunities to transfer the hidden costs of environmental compliance along the GVCs. Lead firms, such as H&M, may use sustainability as a way to strengthen profitability, reduce risk and enhance brand legitimacy. At the same time, suppliers and workers contribute to creating value through sustainability improvements to remain part of the value chain but are often less able to capture the value they help create. Suppliers may improve their efficiency and strengthen their competitiveness through environmental upgrading, but this does not automatically lead to higher profits for them, since the value they create can be taken by the lead firms and further along the value chain. In this way, buyers often gain most from sustainability initiatives, while consumers can experience a sense of environmental responsibility through their purchases (Ponte, 2022). In environmental upgrading, the lead firms are focusing on eco-efficiency gains, that must increase productivity among suppliers while using fewer resources. These means that the firms captured most of the benefits in terms of maintaining low prices due to market power imbalances (Jensen & Whitfield, 2022). In low-income countries within the apparel sector tend to remain concentrated in low value of global supply chains, with limited integration into the domestic economy.

Suppliers who bear the costs of meeting environmental standards can be understood as suppliers perceived these investments as essential for maintaining access to the market, while buyers captured most of the benefits through stronger reputations and the sale of products branded as sustainable. In the presence of unequal market power, buyers across GVCs use sustainability strategies to reinforce a business model that allows them to extract value through more efficient production and green branding, while passing costs and risks on to suppliers (Jensen & Whitfield, 2022).

In Bangladesh, the garment industry has contributed to national economic growth, and the country is expected to graduate from the UN's Least Developed Countries list in 2026. At the same time, wage growth has been kept low to preserve Bangladesh's competitiveness as a sourcing location for global brands (Saxena, 2023). Although many fast-fashion brands, including H&M, claim to support a living wage, workers are only guaranteed the legal monthly minimum wage of 12,500 taka, far below the 23,000 taka demanded by workers, unions and international labour organisations. At the same time, major brands often respond by arguing that it is not their responsibility to determine wage levels in a sourcing country (Saxena, 2023).

According to Reuters, the low wages have contributed to Bangladesh becoming the world's second-largest garment exporter after China, but rising fuel and electricity prices have increased the cost of living. Siddiqur Rahman, representing factory owners, warned that the wage increase could be a "disaster" for the garment industry, which accounts for nearly 16 percent of Bangladesh's GDP and generates more than 40 billion dollars in annual export income. From a supplier perspective, wage increases can create financial pressure for garment factories, particularly in an industry where international competitiveness has partly depended on low labour costs. In Bangladesh, rising fuel and electricity prices had already increased production costs, while higher wages further added to factories' expenses. If international buyers do not increase the prices they pay for garments, suppliers may have to absorb these additional costs themselves. This can reduce profit margins and create challenges for factories operating in a highly price-sensitive global market. (Das & Paul, 2023).

To actively reduce emissions and support more environmentally responsible production, a major pilot programme was carried out in Dhaka, Bangladesh, together with H&M and three garment factory partners. The programme aimed to evaluate technology for treating wastewater

from different stages of the textile dyeing process, with the goal of enabling water recycling and reuse. The results showed an effective reduction of colour and organic contamination, including 99 percent colour removal from dye baths. The purpose of the technology is to collect wastewater from textile dyeing, remove pollutions, and return the treated water to production in a closed-loop system. The pilot programme therefore highlights that water reuse in textile manufacturing is possible under real factory conditions, offering hope for more sustainable production in the future (Cataldo, 2026).

Moving on, H&M's supplier list does not provide exact production volume or order value, but it categorises suppliers by different categories such as worker-size intervals. Fakir Apparels Ltd. appears in one category with ">4001 workers", a supplier with one the largest number of workers, which makes it relevant as an example of a large-scale supplier in Bangladesh (H&M Group, 2026b). Fakir has published its own scope 3 emissions report which makes it relevant for understanding how sustainability responsibilities are also extended to the supplier level, the report illustrates how sustainability responsibilities are extended to the supplier level. The supplier's action plan for reduce scope 3 emissions focus on sustainable sourcing, supplier engagement, collaborative innovation, and standards. This includes prioritising suppliers that provide low-carbon and sustainable raw materials, such as recycled cotton, organic fibres, and renewable-based inputs. In addition, the company plans to collaborate with suppliers on low-carbon production methods, including waterless dyeing, renewable sources, and to introduce supplier sustainability scorecards linked to emissions benchmarks. This should be followed by digital tracking systems, audits and annual sustainability reporting. However, the report does not provide detailed information on how these measures will be implemented in practice, how costs will be distributed or what consequences suppliers may face if they do not meet the emissions benchmarks (Fakir Apparels Ltd., 2025). Another large supplier announced in its Sustainability Report for 2025 that it received a Gold Supplier Award from H&M within its Journey of Excellence (Fakir Fashion Ltd., 2025). The report presents the award as a recognition from H&M, but it does not provide detailed information about the specific criteria behind the award or how H&M selected the supplier. The award therefore illustrates that H&M uses supplier recognition within its sourcing relationships, although the available sources do not clarify the exact basis for this recognition.

6. Discussion

This discussion section answers the research question by analysing how H&M's scope 3 emission governance is connected to the distribution of power, responsibility, and value between H&M and its garment manufacturing suppliers. Rather than analysing these three dimensions as separate, the discussion reflects how they overlap in practice. The central argument is that H&M's scope 3 governance operates as a form of sustainability governance across an outsourced production network. While it may contribute to environmental coordination and emission reductions, it also raises critical questions about who defines sustainability goals and has responsibility over it, who implements them, who pays for them, and who captures the value created by them.

6.1 Governing Emissions Beyond Ownership

The empirical findings indicate that H&M's power in the garment value chain is not primarily exercised through direct ownership of production facilities, but through governance mechanisms that structure supplier participation and environmental performance across the GVC. This is particularly important in relation to scope 3 emissions since these emissions occur outside H&M's own operations and depend on data, practices, and implementation among suppliers and other actors in the value chain. From a GPN perspective, this means that H&M's sustainability governance cannot only be understood as an internal corporate strategy, but as something that operates through relationships across a geographically dispersed production network (Henderson et al., 2002; Coe & Yeung, 2015). Since H&M does not own the garment factories, emissions reductions depend on how the company is able to influence suppliers without formal ownership. This reflects the role of lead firm governance in global production networks, where firms can shape production through sourcing decisions, supplier requirements, monitoring, and access to markets, even when production is outsourced (Gereffi et al., 2005; Ponte & Sturgeon, 2014). H&M's own reporting supports this interpretation, as the company states that it does not own factories but collaborates with independent manufacturers across several tiers of production. The supplier perspective further illustrates that absence of ownership does not mean absence of power. Suppliers remain dependent on H&M's sourcing decisions, requirements and expectations to remain included in the value chain. In relation to scope 3 emissions, this means that suppliers are not only expected to produce garments, but also to participate in H&M's climate and sustainability agenda through data reporting,

environmental requirements, energy-related improvements and compliance with sustainability goals. Power is therefore not located in the ownership of factories, but in the ability to organise, monitor and define the conditions of supplier participation within the production network.

A further complexity is that H&M's supplier network is not made up of equal supplier relationships. H&M's own supply chain material distinguishes between tier 1 suppliers, lower-tier suppliers, and subcontracted processing factories. This means that H&M's governance may be more direct in relation to the suppliers with which it has a business relationship, while lower-tier suppliers and subcontracted factories may be governed more indirectly through lead suppliers, supplier requirements, and monitoring systems. This matters for scope 3 governance because emissions, energy use, wastewater, and chemical management may occur across several stages of the production network where governance is less direct. Responsibility may therefore become mediated through larger suppliers, which makes the distribution of power and responsibility more layered than a simple H&M-supplier relationship suggests.

This can be understood through the concept of corporate power, where firms influence decisions and organise production networks according to their strategic interests (Henderson et al., 2002). In H&M's case, this is visible in the way the company structures its production network through sustainability requirements, transparency expectations, data collection, follow-up assessments, and the possibility of phasing out suppliers that do not meet the requirements. Supplier participation therefore depends not only on the ability to produce garments, but also on the ability to comply with H&M's SIPP, Sustainability Commitment, reporting expectations, and environmental standards. These mechanisms can be interpreted as transparency measures, but they also make the production network more visible, measurable, and governable. In the context of scope 3 emissions, this visibility is central since emission reductions depend on identifying and influencing activities within the value chain, outside H&M's direct control. Environmental requirements therefore become part of the conditions for remaining in the value chain, which indicates how sustainability governance can function as a form of lead firm control even when it is framed as cooperation or shared climate action. H&M's power can also be seen as working in both direct and more indirect ways. Supplier assessments, SIPP, Sustainability Commitment, data requirements, and the possibility of ending a supplier relationship are examples of more direct forms of power, since they create clear conditions for participation. At the same time, H&M's governance is also shaped by more diffuse forms of power, where broader sustainability

norms, reporting systems and industry standards influence what is considered responsible production (Dallas et al., 2019). Frameworks such as the GHG Protocol, SBTi and ZDHC can therefore become more than technical standards, as they help define what suppliers are expected to measure and report. In this way, H&M's scope 3 governance can be shaped by both direct supplier control and broader expectations of sustainability goals.

This supplier pressure should not necessarily be understood only as negative. From a supplier or labour perspective, these requirements may increase dependency and create additional pressure, especially when some suppliers already operate under cost constraints and unequal conditions. At the same time, from an environmental perspective, the same pressure can be understood as a potential driver of change. H&M's requirements concerning GHG reporting, emission reductions, wastewater treatment, chemical management, waste handling, recycling, and circularity may increase the likelihood that suppliers invest in environmental improvements, especially if they want to maintain H&M as a buyer. H&M's power can therefore be understood from different perspectives. It may limit supplier autonomy by setting the conditions for participation, but it may also strengthen environmental upgrading since suppliers may have stronger reasons to reduce emissions, improve energy use and develop better environmental practices. The use of tools such as Higg FEM and FSLM further reflect how H&M governs supplier responsibility without owning production. Since production is already outsourced, the operational responsibility has not simply been shifted to suppliers as the agreements have existed since beginning. What these monitoring systems do is rather to make this responsibility measurable, comparable, and auditable. Through scoring systems, assessments and minimum requirements, supplier performance becomes easier for H&M to follow up and evaluate. This can support improvement by identifying risks and hotspots, but it also strengthens H&M's ability to define how supplier responsibility should be documented and assessed.

Ponte's discussion of sustainability management is relevant here because it indicates how environmental requirements can become part of how lead firms govern GVCs. Sustainability management is not only about reducing environmental harm but can also help lead firms make sustainability issues visible, manageable, and strategically valuable within the value chain. In this way, sustainability requirements may support risk management and strengthen lead firms' ability to govern supplier practices (Ponte, 2020). In the case of H&M, requirements concerning

emissions data make it possible to govern environmental performance across actors in a network the company does not own. This does not mean that the environmental goals are irrelevant, but it points out that climate governance also has a governance function. Through scope 3 reporting and supplier requirements, H&M can make emissions outside its direct operations visible and manageable.

This insight is relevant since reductions in these emissions depend on changes made by suppliers and other actors involved in the network. Without the pressure to measure, report, and reduce emissions, the reduction of scope 3 may be less likely to become a priority across the wide production network. Yet this does not mean that suppliers can easily implement environmental changes on their own. In a fragmented production network, pressure may create incentives for environmental upgrading, but actual implementation could still depend on technical capacity, access to renewable energy, and the financial support. Environmental upgrading may therefore improve production practices, but it can also create new costs and responsibilities for suppliers if it is not supported by changes in purchasing practices or financing (Jensen & Whitfield, 2022).

H&M's governance can therefore be interpreted as contradictory. On the one hand, the company's requirements may support environmental action by pushing suppliers to improve reporting and environmental management. On the other hand, the same requirements may create unequal power relations, since H&M defines the standards while suppliers are expected to adapt these to maintain access into the value chain. The central question is therefore not primarily whether H&M's power is positive or negative, but under what conditions this power contributes to genuine environmental improvement. If environmental requirements are combined with financing, technical support, long-term sourcing relationships, and fair purchasing practices, they may support real environmental upgrading to reduce emissions. If they are mainly imposed as compliance requirements without sufficient support, they risk becoming another cost and responsibility shifted onto suppliers.

H&M's ability to govern emissions beyond direct ownership should therefore be understood as an ambivalent form of sustainability governance. It can support environmental action, while also raising questions about how responsibility, costs, and risks are distributed across the

supplier network. This leads to the next part of the discussion, which examines whether responsibility in H&M's scope 3 governance is shared or mainly shifted towards suppliers.

6.2 Shared Responsibility and Uneven Implementation

Building on the previous discussion, the question is not only how H&M governs emissions beyond ownership, but how responsibility is distributed once climate governance is extended across the supplier network. H&M presents sustainability and climate action as shared responsibilities between the company and its business partners, for example through its Sustainability Commitment, SIPP and supplier-related climate initiatives. From a GPN perspective, this is significant because responsibility in outsourced production networks is not necessarily located where ownership is located. Lead firms may define standards, targets and reporting systems, while implementation often takes place among suppliers (Gereffi et al., 2005; Ponte & Sturgeon, 2014). This creates a tension between responsibility as a shared commitment and responsibility as practical implementation.

In H&M's case, scope 3 emission reductions depend on supplier-level practices, since many of the emissions occur outside the company's own operations. Responsibility is therefore formally shared, but the everyday work of producing data, changing energy systems, improving environmental management and complying with requirements is largely placed on suppliers. This does not mean that H&M is absent from the process. Rather, H&M remains central in defining what responsible production should look like, while suppliers are expected to translate these expectations into practice. This illustrates how responsibility in the value chain is both distributed and governed. H&M takes responsibility by setting targets and developing governance systems, but suppliers carry much of the practical responsibility for implementation. This can be interpreted in different ways. On the one hand, shared responsibility seems necessary for scope 3 reduction, since the emissions are produced across the production network and cannot be reduced by H&M alone. Since H&M does not own the production facilities, climate action depends on cooperation with the suppliers and other actors. On the other hand, the idea of shared responsibility becomes more problematic if the responsibility for implementation is not accompanied by sufficient support, financing or changes in purchasing practices. In that case, shared responsibility may become uneven implementation and in practice be passed on to the suppliers.

From the supplier perspective, this tension becomes more visible. H&M reports that it supports supplier decarbonisation through supplier engagement, energy-related programmes, environmental standards and cooperation around renewable energy. This suggests that the company does not only place requirements on suppliers but also participates in parts of the transition. However, external criticism and material from the supplier perspective in section 5.2 point out structural barriers, such as limited access to finance, difficulties connected to renewable energy infrastructure, and uncertainty about whether buyers are willing to pay more for garments produced in greener factories. This means that the issue is not simply whether suppliers should take environmental responsibility, but whether they have the resources and incentives to do so and if it is beneficial for themselves. Khan et al. (2020) theory are useful for understanding this tension, since they show that environmental upgrading in apparel value chains often requires investments and operational changes at factory level, while the benefits may support buyer reputation and risk management. Sustainability governance is therefore not only about defining environmental goals, but also about how the operational and financial responsibility for reaching them is distributed. If suppliers are expected to invest, report, and adapt while buyers continue to demand low prices and flexibility, shared responsibility becomes more difficult to realise in practice. In such cases, environmental upgrading may depend less on the existence of climate targets and more on whether suppliers receive the support, resources, and purchasing conditions needed to implement them.

Ponte's concept of green capital accumulation adds another dimension to this discussion. Sustainability requirements may contribute to environmental improvements, but they may also create value for lead firms by making environmental performance measurable, manageable, and strategically useful within the value chain (Ponte, 2020). In H&M's case, this can be connected to sustainability reporting, reputational risk management, and the collection of supplier-level information. Suppliers, meanwhile, need to provide more sustainability-related effort to remain part of the value chain, which connects to the question of value capture. Environmental upgrading can create value within the chain, but it does not automatically result in that suppliers capture that value. H&M may be better positioned to communicate emission reductions as part of its climate strategy and brand value, while suppliers may carry much of the practical and financial burden of implementation and not benefit from it as H&M might do. This does not

mean that H&M's shared responsibility framing should be rejected entirely. Shared responsibility is necessary in a fragmented production network, because no single actor controls or can be responsible for all emissions. The problem arises when shared responsibility only describes cooperation without asking how obligations, costs, and benefits are distributed. For shared responsibility to be meaningful, it would need to involve more than requirements and reporting. It should also need to include practical support, financing, long-term sourcing commitments, and purchasing practices that increase the likelihood of implementation for suppliers.

This section therefore supports the interpretation that responsibility in H&M's scope 3 governance cannot be understood only as a corporate commitment. It is also a question of implementation, cost distribution and value capture. H&M can set targets and organise supplier governance, but the ability to reduce emissions depends on whether suppliers have the capacity, resources and incentives to make environmental changes in practice. This leads into the next section, 6.3, which examines whether environmental upgrading creates value evenly across the network, or whether H&M is better positioned to capture the benefits of sustainability improvements.

6.3 The Costs and Benefits of Reducing Scope 3 Emissions

The costs and benefits of reducing scope 3 emissions can be illustrated through how power, responsibility, and value meet in practice. H&M's governance may create environmental value by reducing emissions, improving energy efficiency and increasing visibility across the supplier network. It may also create organisational value by making environmental performance easier to measure, compare and manage among the garment industry. Nevertheless, the same process raises concerns about who pays for these improvements and who captures the benefits.

This can be discussed and related to Henderson et al.'s (2002) distinction between value creation, value enhancement, and value capture. H&M's scope 3 governance may enhance value by encouraging environmental upgrading among its suppliers. Requirements connected to emissions reporting may support the process regarding environmental upgrading. In the findings, this is visible in H&M's engagement with supplier decarbonisation, energy assessments, cleaner technologies and renewable energy, such as initiatives as the wind farm. It is also portrayed in the supplier material, where the supplier describes plans for sustainable

sourcing, low-carbon production methods, digital tracking systems, audits and sustainability scorecards linked to emissions benchmarks (Fakir Apparels Ltd., 2025). That said, value creation does not automatically lead to value capture for suppliers which leads to one of the main tensions of this study. Suppliers may create value by reducing emissions and producing sustainability data, but H&M may be better positioned to capture the strategic benefits of this work. This is because H&M controls the corporate reporting and external communication through which supplier-level improvements become visible to consumers, investors, regulators, and other stakeholders. Lower reported emissions can support H&M's climate targets, strengthen its sustainability reporting, and reduce exposure to reputational risks linked to sustainability performance. This makes the data behind H&M's reported scope 3 reductions important to discuss. In the empirical findings, H&M's latest sustainability report states that the scope 3 calculation was based on 26 percent primary data, while it is not clearly stated how the remaining data was calculated. This does not mean that the reported calculations are incorrect, but it creates uncertainty around the reliability and transparency of the results. Since scope 3 emissions depend on data from suppliers and other actors outside H&M's direct control, the company's reported climate progress is shaped not only by actual emission reductions, but also by the quality of the data, estimates and emission factors used in the calculation. This is important from a governance perspective, because supplier data becomes part of H&M's own sustainability performance.

The methodological change in H&M's 2025 report also raises questions about how environmental progress is measured and made comparable over time. H&M states that the shift from Higg MSI emission factors to Aii's Energy and Carbon Benchmark V1.0 provides a more process-specific estimate of energy use, but the change also results in significantly lower reported energy use and emissions and makes the figures less directly comparable with earlier reporting (H&M Group, 2026a). This does not prove that the methodology is misleading, but it illustrates that reported scope 3 performance depends heavily on the measurement tools used. From a governance perspective, this is important because the actor that defines the measurement framework also influences how progress becomes visible. If changing the "measuring tool" changes the reported level of emissions, then sustainability performance is not only a question of actual reductions in the supplier network, but also of how reductions are calculated, framed and communicated. This may create uncertainty for external stakeholders such as consumers, and it strengthens the need to interpret reported emission reductions together with the

underlying methodology. On the contrary, this does not mean that suppliers cannot benefit as well. These efforts as environmental upgrading may improve factories efficiency and make suppliers more attractive to other global buyers. But these benefits are conditional as they depend on financial support, higher pay, longer-term commitments or improved market access, which can provide suppliers to continue investing in environmental improvements. Jensen and Whitfield (2022) discuss that environmental improvements in apparel value chains may generate efficiency gains and strengthen competitiveness but can also create new costs for suppliers if investments are not matched by sufficient buyer support or improved economic returns. In the case of H&M, the findings confirm that the company does provide some support for supplier decarbonisation, for example through energy assessments, cleaner technologies, renewable energy initiatives and financing solutions. However, this does not remove the question of supplier incentives or value capture. BHRC (2026) argues that brands, including H&M, have not clearly confirmed that they pay higher prices for garments produced in green-certified factories or have achieved emissions targets. This is important because financial support for specific transition measures is not the same as guaranteeing that suppliers capture more value from the upgrading process. If suppliers invest in cleaner production, renewable energy, reporting systems, or other emission-reducing measures without receiving higher prices or better margins, these investments may not generate a clear financial return. Environmental upgrading may then become less a path to improved profitability and more a condition for maintaining access to the value chain. Suppliers may still have reasons to comply, since H&M can be an attractive buyer in terms of reputation, scale, and long-term business opportunities. Despite this, the decision is still broadly placed on suppliers, as they must decide whether keeping H&M as a buyer is enough to justify the remaining costs and risks of environmental investments, although H&M has the power to set the targets. This tension demonstrates that sustainability requirements may contribute to environmental value creation without necessarily ensuring that suppliers capture the economic benefits. Rather than being rewarded for upgrading, suppliers may need to upgrade to avoid exclusion and relations. Therefore, H&M's support may reduce some barriers to implementation, but it does not necessarily solve the aspect of uneven value capture. H&M's investments in innovation and startups may support environmental progress by creating new solutions for more sustainable textiles and production systems. However, they also raise the question of where the benefits of innovation are captured. If innovation mainly strengthens H&M's product development, reporting position or brand

value, while suppliers still carry much of the operational responsibility for implementation, innovation may reduce some environmental barriers without necessarily changing the distribution of value in the supplier relationship. The issue is therefore not only whether H&M invests in sustainability innovation, but which actors in the value chain are able to access, implement and benefit from these innovations. This relates to Jensen and Whitfield's (2022) reasoning that environmental upgrading can create value in apparel value chains while suppliers' ability to capture that value remains limited when upgrading is not correlated to improved prices or sufficient financial returns.

The concept of hidden costs, discussed by Ponte (2022) can also help adding another perspective of this issue. The point is not only that suppliers may face costs, but some consequences of sustainability governance are more visible than others. In H&M's reporting, scope 3 governance can be presented through targets, financing solutions, renewable energy initiatives etc. These are examples of visible signs of sustainable progress. By contrast, the findings also suggest that other parts of the transition are less visible, such as detailed descriptions of actions or numbers of progress. Wren's (2022) discussion of SIPP and supplier self-assessments highlights that suppliers are not only expected to implement sustainability practices, but also to help produce the data through which these practices become visible. This means that scope 3 governance does not only reduce emissions, but it also creates new forms of administrative, technical and organisational work in the supplier network, which also could be recognized as hidden costs. The question is not only who benefits from sustainable implementation, but under what conditions these benefits become accessible to different actors in the value chain. H&M may benefit through improved reporting, legitimacy and risk management while garment manufacturing suppliers may benefit if environmental upgrading leads to efficiency gains, stronger buyer relationships or better competitiveness. Workers and local communities may benefit if cleaner production reduces pollution in the surrounding neighbourhood and improves working conditions. At the same time, the benefits are less obvious for suppliers if environmental investments do not result in better payment or stronger margins. In that case, suppliers may need to absorb the costs within an already pressured production model, which can indirectly affect workers through higher production pressure, limited wage improvements, or weaker working conditions. Local communities may also harm if sustainability progress is mainly captured in brand-level reporting, while pollution, resource use, or environmental risks around production sites remain. This does not directly mean that

such reporting should be understood as greenwashing, but it points out how sustainability communication can risk presenting a cleaner transition than what is experienced in the local context. The key issue is not whether H&M's scope 3 governance can support environmental improvement, but whether the value created through supplier upgrading is also translated into economic benefits for suppliers.

This discussion can indicate that power, responsibility, and value are not separate outcomes of H&M's scope 3 governance, but dimensions that shape and influence each other throughout the production network. H&M's power to define standards affects how responsibility is distributed, while this distribution of responsibility influences who carries the costs of implementation and who is able to capture the value created through environmental upgrading. Scope 3 governance is therefore not only a question of environmental progress as it affects the relationship between H&M and its garment manufacturing suppliers, since targets are translated into requirements, reporting duties, and investment decisions. From this perspective, the effects of H&M's governance could be discovered as conditional. It can contribute to environmental progress, improve transparency, and support upgrading when climate requirements are combined with financing, technical support, and purchasing conditions that allow suppliers to capture value. Although, if the process relies more heavily on requirements, reporting duties, and supplier adaptation, the benefits become more uneven across the value chain. The central issue is therefore not whether the process of scope 3 reduction generate in positive or negative consequences, but under what conditions it takes place, and whether the process distributes power, responsibility, costs, and value in a way that makes shared responsibility meaningful in practice.

6.4 Limitations and Contributions of the Study

One limitation of this study is its reliance on secondary data as the analysis is based on NGO material, media articles, and industry sources. These sources are useful for analysing how sustainability governance is perceived, both from H&M and external partners and how actors describe supplier-related consequences. Although, the sources do not provide direct access to the everyday implementation of scope 3 requirements at factory level. The supplier perspective should therefore be understood as perspective based on external material, rather than as direct testimony from H&M's suppliers or workers. This limitation also affects the type of questions the study can answer by the empirical findings. The study is built around a how-question,

focusing on how H&M's scope 3 emission governance is connected to power, responsibility, and value in the supplier relationship. This is suitable for a qualitative study based on documents, since the material makes it possible to analyse governance strategies, reporting practices, supplier requirements, and external criticism. However, the study cannot fully answer questions regarding why certain decisions are made or why costs and benefits are distributed as they are. Such questions would require access to internal decision-making processes, pricing negotiations, sourcing agreements, and interviews with suppliers. Another limitation is that the study mainly focuses on upstream aspects of scope 3 governance, particularly those connected to production, processing, and environmental upgrading. Downstream activities are introduced as part of the scope 3 framework but are not analysed in depth in the empirical findings. The conclusions should therefore be understood as mainly concerning upstream scope 3 governance, rather than the full range of activities included in H&M's scope 3 emissions. A further limitation is that the empirical material is unevenly distributed. H&M's own reporting is detailed, while the supplier-material is more fragmented and often mediated through NGOs, media reports and broader industry sources. Since this material is spread across different suppliers of the value chain, it provides a less detailed picture of supplier experiences and production conditions. The study therefore does not treat either H&M's reporting or external criticism as a complete or neutral account of the garment manufacturing value chain. Instead, the comparison is used to identify tensions between H&M's governance narrative and external perspectives on supplier conditions. Bangladesh should be understood as an interesting production context within H&M's supplier network, rather than as a full case study of a country.

Despite these limitations, the study contributes by analysing scope 3 emissions as more than a technical accounting category. It indicates that scope 3 governance is closely connected to supplier governance, since emission reductions depend on data, reporting, environmental practices, and implementation outside the lead firm's direct ownership. This contributes to the understanding of how lead firms, as H&M, can govern sustainability in outsourced production networks. The study also contributes by bringing together power, responsibility, and value from different perspectives. H&M's ability to define standards and reporting requirements affects what suppliers are expected to do. These expectations also influence who carries the costs of implementation and who benefits from the value created through environmental upgrading. The study does not measure value capture directly, but it illustrates why the concept is relevant when environmental improvements, implemented by suppliers, become part of H&M's sustainability

reporting. Another contribution is the comparison between H&M's corporate reporting and material from suppliers and external sources. This makes it possible to identify differences between how approaches to sustainability governance are presented differently by H&M and how it may be questioned from the perspective of actors closer to production.

Future studies could address these limitations by using interviews with garment manufacturing suppliers, factory managers, and workers. This would make it possible to examine how H&M's scope 3 requirements are implemented in practice, how suppliers experience reporting demands and whether H&M's support is perceived as sufficient at factory level. Further research could also investigate more deeply the economic perspective of supplier decarbonisation. Since the findings indicate in one example that buyers are not necessarily willing to pay more for sustainably produced garments, it would be relevant to study whether suppliers receive other forms of economic benefit, such as longer sourcing commitments or stronger buyer relationships, when they invest in cleaner production, renewable energy or green-certified factories. This would provide a clearer understanding of whether environmental upgrading leads to supplier value capture or mainly functions as a condition for remaining in the value chain. Finally, studies could analyse how institutional regulations, such as EU sustainability reporting requirements and due diligence expectations, interact with H&M's own supplier policies and scope 3 governance. Comparative studies with other fast-fashion brands could also show whether the patterns identified in this study are specific to H&M or reflect broader developments in the garment industry.

7. Conclusion

This study has analysed how H&M's scope 3 emission governance is connected to the distribution of power, responsibility, and value between H&M and its garment manufacturing suppliers. The analysis suggests that H&M's scope 3 governance should be understood not only as a technical process of measuring emissions, but also as a way of organising sustainability responsibilities across the supplier network. Since the majority of the scope 3 emissions occur outside H&M's direct operations, the reported reductions depend on data, practices, and implementation across the value chain. The empirical findings indicate that H&M's power is not based on factory ownership as the company does not own the production facilities. Although, it can still influence supplier practices by setting climate targets, requesting sustainability data, using assessments, and defining the requirements for continued participation in the value chain. This means that outsourced production does not remove lead firm power. Instead, power is expressed through the ability to define what suppliers are expected to measure, report, and improve. Responsibility is also distributed across several actors in the value chain. H&M presents sustainability and climate action as shared responsibilities between itself and its business partners, and the findings support this in the sense that both H&M and suppliers have roles in reducing scope 3 emissions. H&M defines climate targets, supplier requirements, reporting expectations, and support mechanisms, while suppliers are expected to implement environmental practices, share data and adapt their operations accordingly. The responsibility is therefore shared, but it is operationalised through different positions within the value chain. H&M as the lead firm, organises and monitors the transition through its governance systems, while suppliers carry out many of the practical measures needed for emission reductions. This matters because the effectiveness of shared responsibility depends on whether suppliers have the resources, incentives and support needed to implement these requirements in practice. At the same time, suppliers may still be placed in a dependent position if maintaining H&M as a buyer requires them to meet the company's sustainability expectations. Shared responsibility therefore becomes closely connected to supplier dependency, since environmental implementation is not only a climate issue but also part of the business relationship between buyer and supplier.

The question of value makes this tension especially clear. Scope 3 governance can create environmental value by reducing emissions, improving energy efficiency, increasing

transparency, and supporting environmental upgrading. Suppliers may also benefit if these improvements lead to efficiency gains, stronger buyer relationships, or improved competitiveness. Still, value creation does not automatically lead to value capture for the suppliers. H&M may be better positioned to capture strategic benefits through improved sustainability reporting, reduced reputational risk, and stronger brand legitimacy. Suppliers, meanwhile, may need to invest in environmental upgrading to maintain H&M as a buyer. The same logic applies to sustainability innovation. H&M's investments in new materials and environmental technologies may support climate progress, but the distributional effect depends on which actors are able to access, implement, and benefit from these innovations. This means that scope 3 governance can create value across the production network, while the ability to capture this value remains unevenly distributed between H&M and its suppliers. The main conclusion is that the effects of H&M's scope 3 governance are conditional. It can support environmental progress when requirements are combined with financing, technical support, credible data practices, long-term sourcing relationships, and purchasing conditions that make supplier upgrading possible. But, if governance relies mainly on standards, reporting duties, and supplier adaptation, the benefits become more uneven. Scope 3 reduction should therefore be evaluated not only in terms of emission reductions, but also in terms of how responsibility, costs, and value are distributed across the production network.

This study contributes to research by showing that scope 3 emissions can be analysed through a Global Production Network (GPN) perspective. It connects climate accounting to questions of lead firm governance, supplier dependency, responsibility, and value capture. This is relevant because reported emission reductions are often presented as environmental outcomes, while this study suggests that they are also produced through relationships between firms, suppliers, data systems, standards, measuring tools, and reporting practices. Climate progress and uneven value distribution can therefore exist at the same time. For H&M and other lead firms, the implication is that supplier decarbonisation should not be treated mainly as a reporting or compliance issue. Requirements placed on suppliers need to be matched with financing, technical assistance, longer sourcing commitments, and purchasing practices that make environmental upgrading viable. This is particularly important because individual suppliers may have limited ability to demand better conditions from large buyers, even when they are expected to contribute to the buyer's climate targets. Otherwise, sustainability requirements risk

becoming another condition suppliers must meet without necessarily receiving stronger value capture.

For policymakers and regulators, the study points to the need for stronger transparency around scope 3 reporting and supplier-level implementation. Regulation should not only require companies to report emissions but also make clearer how scope 3 data is calculated, how methodologies change over time, and how suppliers are supported in meeting climate requirements. This would make it easier to evaluate whether reported reductions reflect actual improvements in the value chain or mainly changes in reporting and calculation practices. For NGOs and civil society actors, the findings suggest that scrutiny should move beyond whether brands report lower emissions. It is also important to examine how reductions are achieved, who carries the costs, and whether suppliers, workers, and local communities benefit from the transition or bear the costs. This is where hidden costs and uneven implementation become important to make visible. The broader message of this study is that reducing scope 3 emissions in outsourced garment production should be understood not only as a climate challenge, but also as a governance challenge. A more meaningful form of shared responsibility requires asking not only who reports climate progress, but who produces it, who pays for it, and who benefits from it.

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