

LEVERAGING CORPORATE SUSTAINABILITY REPORTING FOR CIRCULAR TRANSFORMATION

How to get the most out of your materiality
assessment and selection of indicators



A white paper of

COALITION CIRCULAR ACCOUNTING



INVESTNL



ABOUT THE COALITION CIRCULAR ACCOUNTING

Circle Economy, The Royal Netherlands Institute of Chartered Accountants (NBA) and Invest-NL have formed a coalition to jointly identify and investigate reporting and accounting issues in the circular economy.

The coalition consists of internal finance professionals, financiers, sustainability consultants, accountants, external auditors and academic researchers. In the CCA, we collaborate to gain a better

understanding of current financing and reporting guidelines and, where necessary, to formulate new guidelines that are fit for purpose in the circular economy. The coalition utilises a variety of practical case studies to investigate challenges and develop new knowledge and potential solutions.

The CCA has been working on the Hempel case in a Community of Practice (CoP) format—a pre-competitive environment where stakeholders with different professional backgrounds share and develop knowledge.

ABOUT HEMPEL

Hempel is a multinational paints and coatings producer that specialises in developing and manufacturing coating solutions and services across four major application areas: decorative, energy, infrastructure and marine. Founded in Denmark in 1915, Hempel now operates 26 factories globally and has a workforce of over 7,500 employees.

In recent years, Hempel has demonstrated a strong commitment to the environmental impact of both its own business and the wider industry, aiming to shape sustainable coating products and services.¹ Hempel launched its sustainability framework, Futureproof,

in 2020 with the aim to embed these concerns into its business model, integrate sustainability into its corporate strategy, become a sustainability leader in its sector and, ultimately, detach its growth from its environmental footprint.

The company has since set ambitious targets, including a certified pledge to reduce carbon emissions by half by 2030, achieving zero waste to landfill by 2025, reaching 50% of recycled content in its plastic packaging by 2025 and more.² Some of the existing efforts to reach these targets include bio-based product lines in the decorative business, a packaging take-back scheme, and reusable packaging options.

CONTENTS

1 - INTRODUCTION	6
2 - MATERIALITY ASSESSMENT IN THE CONTEXT OF DOUBLE MATERIALITY	12
3 - SELECTION OF INDICATORS	30
4 - FROM BOX-TICKING TO GROUNDBREAKING: EMBRACING THE SYSTEMIC POTENTIAL OF THE CSRD	42
REFERENCES	44
COLOPHON	45

CALL TO ACTION

SEE THE OPPORTUNITY IN ESRS E5

The Corporate Sustainability Reporting Directive (CSRD) requirement of mandatory double materiality and extensive sustainability reporting for material topics will be new for many businesses. Yet, these requirements will unlock a large amount of insightful new information to the benefit of your company. The challenge is comprehensive for all that are obliged to comply, so why not leverage the opportunity to take a deep inward look at your business and unlock new business models? Use the process to refine the circular solutions that will allow you to embed long-term resilience and distinguish your business as a frontrunner in the circular transition.

START SOMEWHERE AND START NOW

Do you know how many virgin resources your suppliers use? The financial risks of not having insight into your waste streams? This may be crucial information for your organisation to remain financially viable. The CSRD requires businesses to report on circular economy topics for the very first time, and an understanding of impact is needed throughout the value chain. The task is a challenging one and can seem overwhelming, but in any case, doing something is better than nothing. The businesses that stand to get the most benefit from reporting will be those that began preparation first.

LEVERAGE WHAT YOU'VE ALREADY GOT

Businesses are likely already more prepared for CSRD reporting than they realise. Existing risk assessments and due diligence frameworks are a great starting point for the double materiality assessment. For example, any existing sustainability strategy, targets or policies can also be integrated into the reporting endeavour. In doing so, you will avoid starting entirely from scratch, and it will also help to align ESRS E5 reporting with any actual or planned developments the business has made regarding circularity.

BE PROACTIVE AND EMBRACE STAKEHOLDERS

The obligation to include actual and potential risks and opportunities in terms of both financial and environmental impact is a golden opportunity to integrate key circular economy issues into corporate strategy. Use the double materiality assessment as a means through which to develop a deep understanding of how your business affects and is affected by its wider ecosystem. Businesses will need to be proactive in identifying material topics with external stakeholders such as customers, communities, NGOs and activists consulted as part of this process. This way, you can ensure that when topics begin to materialise, your business is ready to act and report on them at the required level.

ENGAGE, ENGAGE, ENGAGE

For businesses where ESRS E5 is determined to be a material topic, the requirement to report extensively on circular economy topics brings the urgency to gather key internal stakeholders to the table. Use this opportunity to engage with your staff, understand what type of information would allow them to make better decisions, and make them part of the process of managing and leveraging that data. Assign ownership to teams across the business and inspire staff by putting them at the heart of your circular transition.



1 - INTRODUCTION

1.1 ABOUT THIS WHITEPAPER

This whitepaper shares insights from the latest research endeavour by the Coalition Circular Accounting (CCA). The Coalition spent the first five months of 2023 assessing the implications of European Sustainability Reporting Standard (ESRS) E5, *Resource use and the circular economy*, alongside Danish paint manufacturer, Hempel. Although the ESRS is currently in draft (final expected summer 2023), the overarching reporting structure provided by the Corporate Sustainability Reporting Directive (CSRD) should ensure that the learnings in the paper remain valid even if changes are made for the final iteration of ESRS E5.

Hempel was selected as a partner for this process as it provides a particularly illustrative case study for the task. A business evidently concerned with its impact on the environment in an industry where circularity is key for achieving sustainability ambitions—but one that will still be required to take significant steps to comply with the new reporting requirement. This case study is important as it is representative of industries where sustainability impacts are closely connected to the use of (raw) materials and where their own operations produce only a small fraction of such impact. For these industries, circularity strategies both upstream and downstream should be at the core of their sustainability efforts, especially for targets that cover whole value chains, such as Scope 3 emissions reduction.

The analysis of the Hempel case seeks to do two things. First, shine a light on the specific requirements of ESRS E5—providing a step-by-step guide for businesses to prepare themselves to report on circular economy topics. And second, to reframe compliance with the ESRS E5 from being viewed as a laborious distraction to highlight instead the unique opportunity it provides to kickstart business's circular economy transition.

The paper, therefore, follows a narrative akin to the 'carrot and stick'. The stick is possibly the more widely felt incentive for the CSRD and represents the legal requirement for the large subset of businesses that will have to comply with its demands. The stick is required to place circular economy reporting high on the corporate agenda and to ensure businesses become transparent in all relevant areas, not just those where they perform well. The CSRD promotes transparency to solidify sustainability as an area of competition where companies will be compared, evaluated and selected by customers, employees, investors, governments, NGOs, et cetera based on the data they do and do not disclose. For businesses where ESRS E5 is a material topic, the level of circularity will be one such area.

The carrot, on the other hand, represents the underappreciated opportunities that arise when the whole business comes together to assess circular economy topics—especially in how reporting on key metrics can inform sustainability decisions throughout the company. For those businesses that are required to report on the circular economy anyway, why not leverage the new information to engage with your value chain better, understand which circular economy solutions suit your business best and identify new ways to innovate that build-in long-term resilience?

1.2 CIRCULAR ECONOMY

Circularity is now understood to be a systemic approach for addressing the triple planetary crisis of climate change, biodiversity loss and excessive levels of pollution.³ By mitigating the use of virgin resources and excessive generation of waste, circular strategies offer the blueprint for an economy that moves beyond reliance on extraction and exploitation to one that provides a foundation for people and planet to thrive.

As the most prominent producers in today's world, businesses take centre stage in the transition to a circular economy. If businesses cannot shift from the 'take-make-waste' model that has become the norm, neither will society as a whole. The good news for businesses is that the benefits of embracing circularity can present a multitude of new business opportunities. Circular revenue models, which include examples such as pay-per-use or sell-and-buy-back,⁴ have been shown to be significantly more resilient to external shocks than linear ones, making them a fantastic option in adaptation strategies.⁵ By decoupling economic success from resource use and increasingly volatile global supply chains, circular businesses can mitigate significant operational and financial risk in comparison to their linear counterparts.

By mitigating linear risk⁶ in this way, circular businesses can create major financial benefits, both through a significant reduction in defaults on debt repayments and superior risk-adjusted stock performance. For the banks and financiers tasked with aligning their investment operations to ambitious climate targets, circular economy investments offer a win-win situation of cross-cutting sustainability benefits and reduced portfolio risk. The question for progressive businesses and financiers, therefore, is 'how'? How best to leverage the opportunities provided by the circular economy and how to track the progress of a topic that remains somewhat novel? That, it is hoped, is where ESRS E5 comes in.

1.3 CIRCULARITY AND THE CSRD: INTRODUCING ESRS E5

The CSRD is part of a set of legislations aimed at mobilising the private sector to contribute to the European Union's plan to transition to a fully sustainable and resource-efficient economic and financial system.

As of 2024, it will be legally mandatory for companies in scope (see Figure one) to disclose information on sustainability topics that have material impacts, risks and opportunities. The CSRD's objective is for businesses to publicly communicate their action plans, policies and targets related to sustainability, as well as their progress towards meeting them. This new level of transparency will then channel capital from investors to the businesses most committed to the sustainability transition.

To guide companies in this endeavour, the CSRD refers to a newly developed set of 12 reporting standards (still in draft, with finalisation expected in summer 2023), the European Sustainability Reporting Standards (ESRS). The standards provide guidance on how and what to report on to ensure environmental, social and governance elements are covered in a comparable way.

Circularity is included in ESRS E5, *Resource use and circular economy*. E5 represents a critical juncture in measuring circularity at scale as it requires companies to track circularity progress in terms of both production and consumption.

As such, provided the CSRD is implemented in the right way, financiers, customers and policymakers will, for the first time, be able to compare and contrast businesses based on their commitment to the circular economy. Financiers will be able to target investments for businesses that are working to decouple financial success from resource dependence; customers will be able to make purchasing decisions based on material extraction or waste generation rather than just quality and price; while policymakers can better monitor business progress towards circularity. This is an area where some businesses are less mature, therefore they may find it challenging to comply.

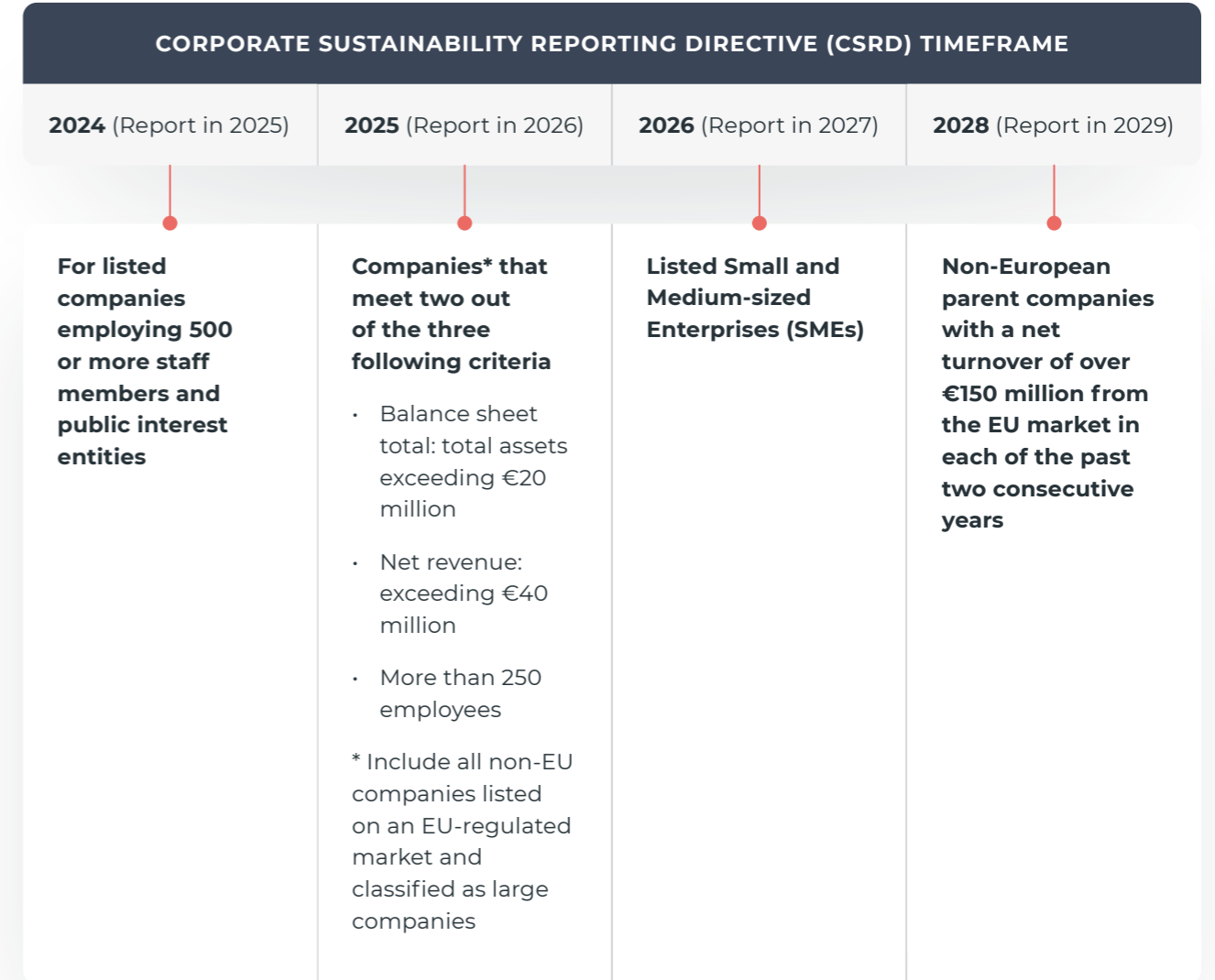


Figure one depicts the timeframe of the Corporate Sustainability Reporting Directive, stating when different businesses will be required to comply. **The CSRD timeframe**

1.4 TWO CRITICAL FIRST STEPS IN CIRCULAR ECONOMY REPORTING: MATERIALITY AND INDICATORS

In order to aid businesses that are required to report on the circular economy for the very first time, Circle Economy developed the 8-step approach to circular economy reporting, alongside CircularIQ, as part of their CSRD self-assessment tool.⁷ The 8-step approach covers the practicalities of the reporting process, from the initial identification of relevant topics to the actual assessment and reporting element.

This paper is concerned with the first two steps of the ESRS E5 reporting process. Step one is the materiality assessment. It involves developing a long list of topics and assessing them to determine whether they are 'material' to your business. This is based on the double materiality concept of 'financial materiality' (how the topic impacts your business) and 'impact materiality' (how your business impacts that topic). Step two is the selection of the indicators, determining how you will then report on each topic that has been determined as material. This paper will also detail how the process of and learnings from these two steps can contribute to a reduction in resource use through new circular business models and innovations. The other steps are considered out of the scope of this paper.



Figure two illustrates Circle Economy's multi-step approach to circular economy reporting. **The 8-step approach**

2 - MATERIALITY ASSESSMENT IN THE CONTEXT OF DOUBLE MATERIALITY

2.1 WHAT IS DOUBLE MATERIALITY?

Aside from its increased scale and required level of detail, perhaps the most significant change the CSRD will bring relates to the introduction of double materiality. Double materiality was first officially defined by the European Commission in 2019⁹ as part of its guidance for non-financial reporting. Since its introduction, an increasing number of standards, including the Global Reporting Initiative (GRI)⁹ and the Sustainability Accounting Standards Board (SASB),¹⁰ have incorporated the approach. As a concept, it is designed to initiate a shift in businesses' priorities beyond just the bottom line.

For the International Sustainability Standards Board (ISSB),¹¹ materiality is focused on topics in the short- and longer-term that generate financial risk or opportunity for a business, using the more known 'outside-in' approach used in financial reporting. Under requirements of the GRI, materiality is focused on topics that relate to the company's impact on the economy, environment and people for the benefit of multiple stakeholders—such as investors, employees, customers, suppliers and local communities—using an 'inside-out' perspective. The CSRD combines the financial and impact materiality concepts in a double materiality approach. This refinement of double materiality creates consistency in the application of materiality assessments. Additionally, due to the increasing number of companies required to comply with the CSRD, many businesses will need to apply the 'inside-out' perspective of impact materiality for the first time.

Any topic in which a company's actions have an actual or potential (significant) impact, both positive and negative, on society or the environment will now also be considered material—whether these are caused by the business itself or at any point in the value chain.

The chart below shows one of the ways in which double materiality can be illustrated: in a matrix. The more severe the financial effects and/or external impact, the more important that topic is to the business.

Once broadly applied, the introduction of double materiality has the potential to initiate radical change in the way businesses assess their (environmental) impacts. Through the CSRD's more extensive rules, the imperative of businesses will move beyond what is important to profits and shareholders towards how important the business is to the health of society and the planet. As stakeholders, people and the environment will gain attention that was previously only reserved for selected shareholders. The double materiality assessment is a superb example of how the CSRD process will help to focus transformation strategy where it really matters, and to work towards delivering value for all company stakeholders—including people affected by the companies' activities, but without a stake in the company or a possibility to engage with the company directly.

UNDERSTANDING DOUBLE MATERIALITY¹²

The CSRD will require disclosures to take a 'double materiality' perspective, meaning companies will have to report how their business affects sustainability issues as well as how the issues affect their business. Figure three represents double materiality as a matrix. The chart showcases that the significance of a specific topic to the business increases as its financial effects or external impact become more prominent.

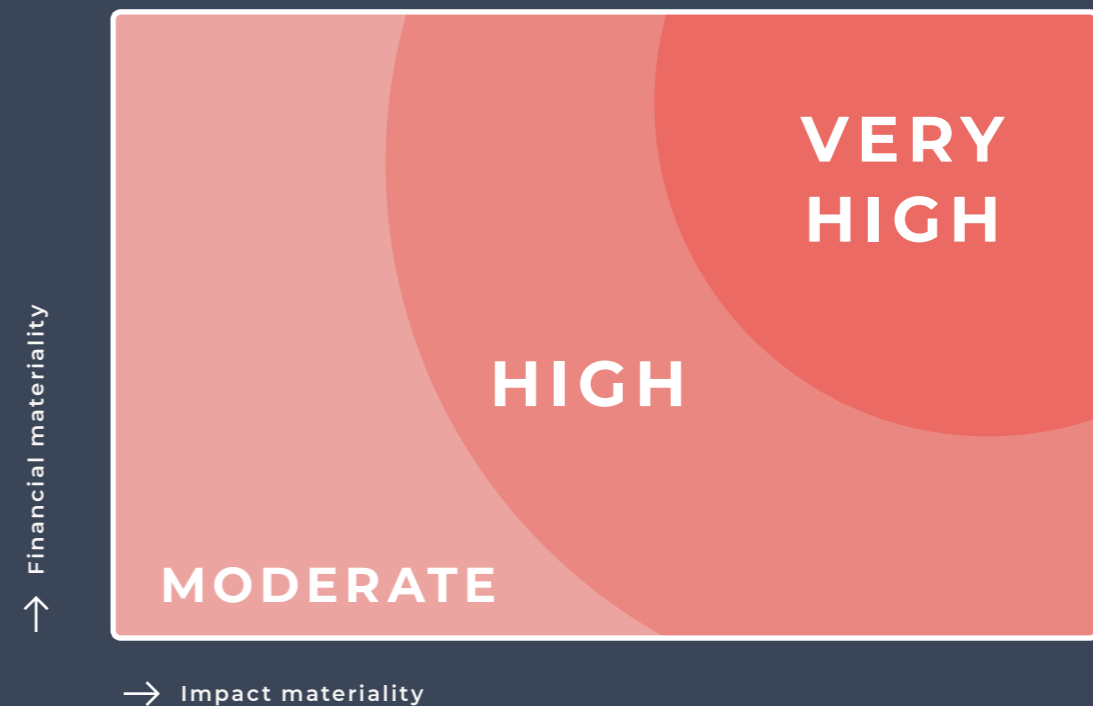


Figure three represents double materiality as a matrix. The chart showcases that the significance of a specific topic to the business increases as its financial effects or external impact become more prominent. **Double materiality matrix**

The following section will detail a step-by-step process for completing a materiality assessment under the new context provided by double materiality, using the experience of Hempel as an illustrative guide. Before starting with the materiality assessment, the ESRs¹³ require that the company's existing due diligence process be used to 'inform' the materiality process. In the absence of such due diligence procedures, the

company should consider developing and implementing such a process to support the materiality assessment. The materiality assessment itself is a multi-step process and will require buy-in from top-level management and input from across the business. The process outlined in this paper is one devised by the CCA and leans on previous work done by Deloitte¹⁴ and Circle Economy.



Figure four depicts a suggested simplified multi-step process for developing a double materiality assessment. **The Double Materiality Assessment**

2.2 THE MATERIALITY ASSESSMENT

Understand your company's context and map the value chain

Before even considering potential topics or assessment criteria, it is necessary to ensure that the reasoning and requirements of the CSRD are well understood. The very best foundation a business can create for itself is one where the entire company—especially senior management—is aligned on the process and understands why action is being taken. Such conversations should revolve around the unavoidable truth that sustainability is now distinctly relevant to every business—the only companies that will be successful in navigating the tumultuous years of climate adaptation and mitigation will be those that planned for them early and comprehensively.

The first step of any materiality assessment is understanding the 'why' behind the company undertaking a double materiality assessment. Is it just for compliance or is it also to inform the company's (ESG) strategy? The next important step is to understand the company's business operations and value chain..

From producers to suppliers, logistics partners to waste management, the entire value chain is relevant in the eyes of the CSRD. By mapping it in its entirety and plotting any occasion the activities in the value chain interface with nature, a number of topics will emerge for the longlist. Those further up or down your value chain may not be considered material, but analysis should still be performed to ensure that is the case. At this stage, it is important to highlight that companies are required to not only report on their direct impacts, but also indirectly through the business relationships in their value chain.

MATERIALITY ASSESSMENT

1

In order to manage this process, the varying tasks should be prescribed to the most relevant teams across the business who have the knowledge about, power to influence and direct connection to the activities underlying the material topic. Ownership should be given to the most relevant individuals to identify potential risks and opportunities in sustainability relating to their area of focus within the business, and then external stakeholders can be brought in to identify any that may have been missed. For example, customer service colleagues are best suited to speak for customer problems and needs. Stakeholder mapping and sustainability governance will be important for all compliant businesses.

While stakeholder impact is central to materiality concerns, there is a common misconception that the materiality assessment is a stakeholder-led initiative. It is often assumed that stakeholder groups have decisive power over what is material. The CSRD places the onus firmly on businesses to proactively identify current or future material topics—stakeholders are primarily consulted to determine their impact further down the line. No one knows a business better than the business itself, and stakeholders can't be expected to have oversight of issues across the entire value chain.

Sector analyses, due diligence and risk assessment frameworks should be leveraged to identify any possible material topic before approaching stakeholders, and subject matter experts can be engaged to supplement this. Ultimately stakeholders' perspectives should be considered and may bring valuable additions, but the responsibility of the process lies in the hands of the reporting organisation.

Landscape assessment

After understanding the company's context and mapping the value chain, it is time to engage in a landscape assessment of your industry as a whole, to understand the risks and opportunities for other industry players that are also relevant to your company. This should be a proactive task involving desk research on sustainability-related challenges for the appropriate industry as well as dialogue with competitors, customers, suppliers and any other stakeholders that might be relevant. Conversations should be exploratory and open-ended in order to unearth new or underrepresented issues.

Assign ownership internally and finalise the longlist of potential topics

Finalising the longlist of topics is the last step before the materiality assessment itself. This will detail all of the issues across a business' value chain that will then be assessed to determine their actual financial and impact materiality. Having reviewed any existing enterprise risk assessment or due diligence frameworks, performed landscape analysis, and engaged with relevant stakeholders, you can be sure that the longlist will be comprehensive. Once the various topics on the list are assigned to the best-placed persons within the organisation, you are ready to begin the materiality assessment.

Impact materiality assessment

The impact materiality assessment takes the longlist of potential topics and analyses each to understand whether the business's impact is sufficiently 'severe'—a condition defined by ESRS 1 as concerning the 'scale, scope and irremediable character of the impact'. It is likely that, at least for some topics, existing due diligence and risk assessment frameworks will contribute to the impact assessment. However, to truly gauge the level of actual impact a business has on a topic, ESRS 1 expects that two groups of stakeholders are consulted—affected stakeholders and users of sustainability statements. It is also important to consider silent stakeholders, such as the environment, for which subject matter experts may have to be consulted.

The longlist of topics and a longlist of potential stakeholders should be cross-referenced, grouped and prioritised. Effective modes of communication should be devised between the business and the stakeholders—these might be customer groups, NGOs, representatives for nature and biodiversity (an interest group for a lake or animal species, for example), or local communities. Aside from ownership of the process, decisions will need to be made around how to ensure good participation, as well as how to gather the results for analysis. Again, sustainability due diligence frameworks and enterprise risk assessments may be used as a starting point to inform the process, especially on topics where the stakeholder feedback is not definitive.

ESRS 1, *General Requirements*, defines impact materiality as follows: 'A sustainability matter is material from an impact perspective when it pertains to the undertaking's material actual or potential, positive or negative impacts on people or the environment over the short-, medium- and long-term time horizons. Impacts include those caused or contributed to by the undertaking and those which are directly linked to the undertaking's own operations, products, or services through its business relationships'.

For most businesses, there will be a handful of topics that are evidently deemed impact material in the eyes of the CSRD that should clearly be reported on. These might typically be those where impacts are negative and occur in the present. However, the ESRS make it clear that several considerations are required when assessing impact materiality besides, possibly, the more obvious negative impacts.

IDENTIFYING POTENTIAL MATERIAL TOPICS WITH HEMPEL

As part of the trajectory with the CCA, the group simulated the Hempel materiality assessment process at a high level. Using the example of Hempel, the intention was to provide a walkthrough guide for businesses in a similar position in their CSRD journey. Although this is introduced at a far higher level than a materiality assessment should be conducted, it is hoped that it can provide greater context to the actualities of the process itself.

Looking at the Hempel value chain, we can see there are various occasions where it might interface with nature. The more obvious ones, such as those cited in ESRS E5, might include the level of general waste. For the sake of this exercise, however, it was deemed more valuable to consider two topics that might be considered, without assessment, to sit on the fringe of being material, as these are the issues where the materiality assessment is especially important. For illustrative purposes, one topic—plastic pollution—would be considered a risk, while the other—circular materials—also represents an opportunity for Hempel.

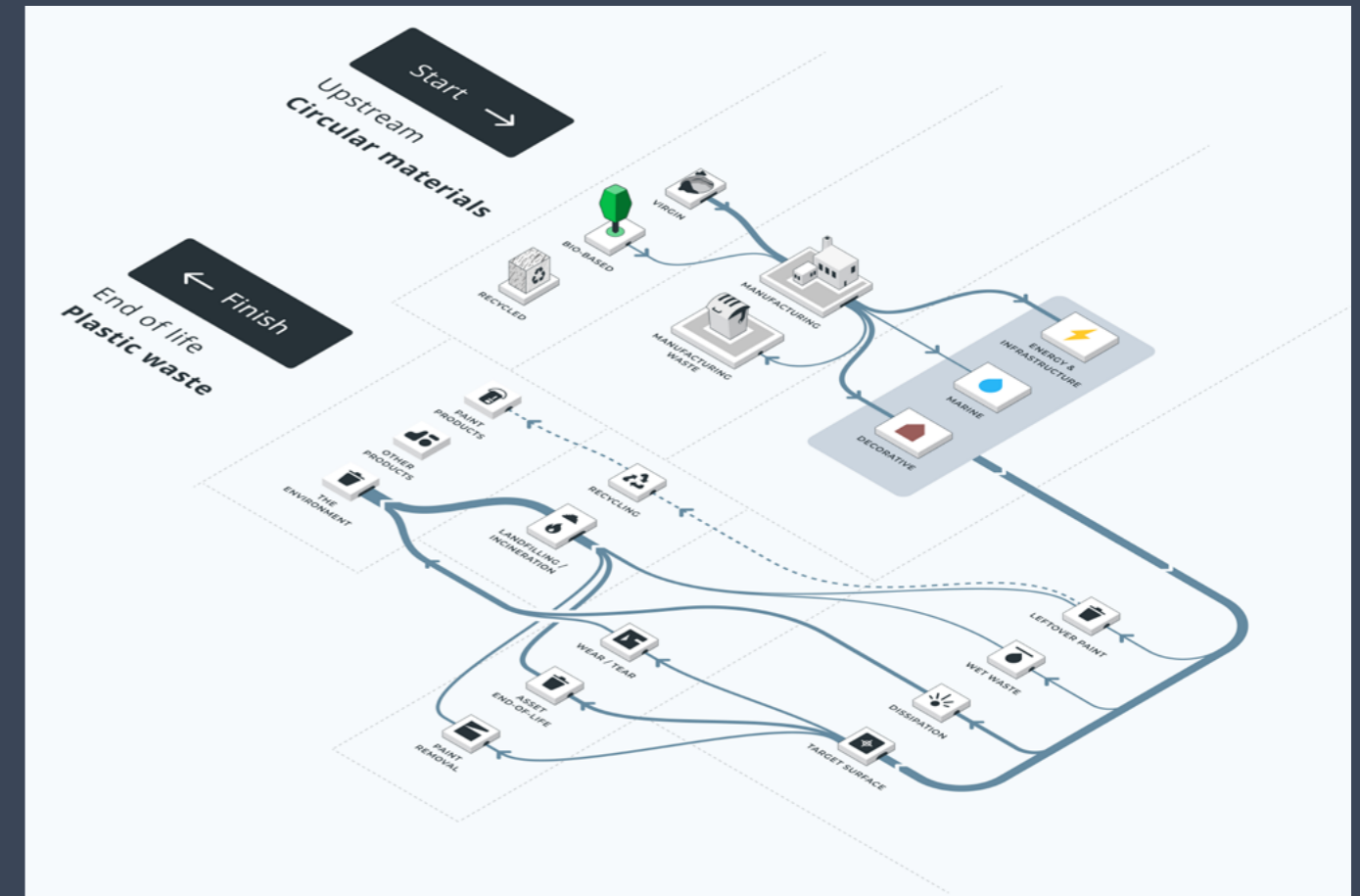
Plastic waste

Plastic is relevant to the paints industry as it can be found in the packaging used to encase the paints, as well as in the various polymers used as ingredients in the paint products themselves. Plastic packaging takes centuries to biodegrade and, if it finds its way to landfill or the environment, it accumulates and impacts ecosystems and biodiversity.¹⁵ Similarly, the polymers included in the paint can be released into the environment through improper disposal of paint waste and through the wear and tear of coatings over time. The accumulation of plastic objects and particles has become increasingly prominent in the world's oceans.¹⁶ Plastic packaging is a more mature issue as it has been a concern for several years now and has started to be addressed at a policy level through EU directives covering Extended Producer Responsibility, packaging materials (e.g. recycled content), and waste management.^{17 18}

The polymers found in paints, however, have only recently come under scrutiny through reports and peer-reviewed articles focusing on the presence of microplastics in the oceans and identifying paints as one of many sources. Further, the upcoming UN Treaty on Plastic Pollution is likely to considerably increase the salience of the issue.¹⁹

Circular materials

Circular materials are materials that can be regenerated either via biological processes (bio-based materials) or via technical processes (recycled material). Circular materials relate to both the risk Hempel faces in relying on raw material inputs for its products and packaging but also in the emerging opportunities that arise from replacing petroleum-based raw material inputs, typically polymers, in paints with substitutes made from renewable or bio-based sources. Though the exact outcomes are not yet clear, the use of circular materials in paint manufacturing has the potential to significantly lower the carbon footprint of the industry, decoupling from fossil-based value chains.²⁰ It is also likely to drive demand for Hempel products, as consumers' awareness and demand of sustainable products increase.



The Hempel Value Chain

The market for circular paint materials is, however, in its infancy, and few such product lines exist today of a suitable standard, although there are some bio-based paint solutions appearing in some markets. The bio-based chemicals derived from plants, algae or agricultural waste and feedstock currently only make up around 2–3% of available chemical inputs, but the market is growing exponentially. Some of these solutions require additional research and development (R&D) to be incorporated in paints, but others do not (so-called 'drop-in' solutions), and in the case of the latter, the transition is expected to be much faster.²¹

In order to provide a high-level overview of the impact materiality process, the CCA derived a four-point guide for any business to consider when determining the impact materiality of a given topic that goes beyond the obvious

FIPP Impacts: Future, Indirect, Potential, Positive - Beyond immediate negative impacts, topics may also be impact material if they meet the following criteria.

Future: Impacts should be considered over 'short-, medium- and long-term time horizons'. This implies that you don't only look at current issues but also at impacts that will arise in the future.

CCA Tip

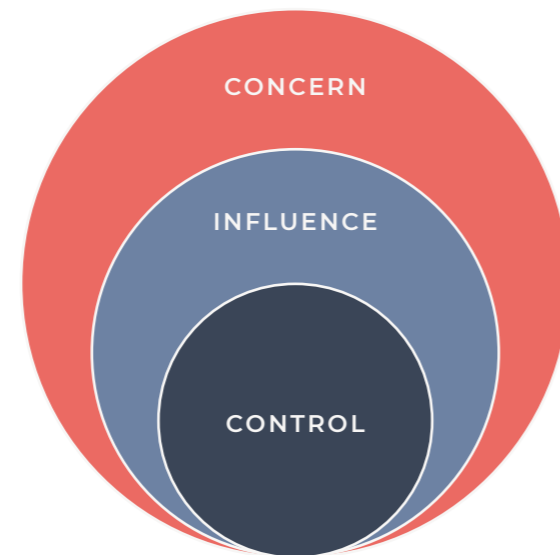
When assessing impacts, their severity and likelihood over the long term, it is important to corroborate stakeholder input with your business's own due diligence framework and risk management processes. Stakeholders may be unaware of upcoming business developments and so will not be able to give as comprehensive input on future impact.

Indirect: By requiring reporting on 'impacts linked to the undertaking through its business relationships', the ESRS clearly states that issues arising elsewhere in the value chain are also considered material. In the eyes of the CSRD, your business is responsible for the actions of suppliers, customers, partners and end-users.

CCA Tip

Not every topic that is material for value chain partners will be material for your business. Depending on the relevance of the impact in the market and on your business activities, however, some may well be. The diagram below shows the three spheres of relation your business might have with value chain topics. The sphere of control denotes any topic your business is able to act on directly, the sphere of influence relates to those where your business is close or large enough to have impact on a given topic, while

the sphere of concern includes issues that are relevant to your business relationships but cannot be controlled nor are significantly impacted by your own business's activities. For the sake of impact materiality, any topic in the sphere of influence or control could be considered material.



The spheres of relation

Potential: The ESRS clearly states the relevance of 'actual or potential' impacts, meaning that businesses should also list topics as material if there are indications that the organisation's impact could be material, even if it is not certain to be the case.

CCA Tip

As new concerns around sustainability arise and as new solutions for their mitigation develop in parallel, the level of impact of many novel topics are not yet known. In such cases where the potential for impact is significant, the onus is on businesses to display their awareness and actions towards developing industry understanding and mitigating the worst-case scenarios. Additional disclosures may be added to the reporting on the materiality process, where companies can flag any instances where this is the case.

Positive: Though often not considered as such, positive impacts are equally important for sustainability reporting. Successful future businesses will be those that effectively aid the sustainable transition, so any opportunity to do so should be reported on.

CCA Tip

The requirement to report on impactful opportunities as part of the CSRD is an opportune moment for sustainability/CSR professionals to explore possible circular economy solutions in greater detail. Ensuring a strong focus on the value your business can provide to the environment helps to display commitment and build an inspiring narrative.

In an ideal scenario, all of the qualitative feedback from the stakeholder groups would be quantified to assess the level of impact in a comparative way, perhaps translating findings to a social cost of impact figure that can be compared against thresholds or benchmarks. That, however, is a complex and time-consuming task that may not be possible in the first few iterations of CSRD reporting. In the meantime, businesses should develop a transparent scoring methodology to estimate the levels of qualitative severity for each topic. This way, businesses are still able to provide transparent conclusions as to why topics were deemed to be material or not while they work to develop a more comprehensive analytical approach over time.

ASSESSING IMPACT MATERIALITY	
What kind of impact is relevant?	How do I know if the impact is significant?
<p>Current negative impacts:</p> <p>The clear, well-defined and direct impacts will typically be those that are most obviously material.</p> <p>FIPP impacts</p> <p>Future: Impacts that go beyond today's worries and will or might materialise in the short-, mid- or long-term.</p> <p>Indirect: Impacts that don't fall under your direct sphere of control but are still well within your sphere of influence (for example, in your value chain).</p> <p>Potential: Impacts that are potentially significant but where the full extent of the impact is still unknown.</p> <p>Positive: Impacts that are positive or represent opportunity</p>	<p>If the actions of your business substantially influence society or the environment, use different stakeholders to determine this.</p> <p>Questions to answer:</p> <p>i) What is the scale of the impact?</p> <p>How significant is the impact on affected stakeholders?</p> <p>ii) What is the scope of the impact?</p> <p>How many stakeholders are affected by the impact?</p> <p>iii) Is the impact irremediable?</p> <p>Can the impact be undone?</p>

Figure five shows the CCA criteria checklist for conducting an impact materiality assessment. **Criteria checklist for impact materiality**

IMPACT MATERIALITY CONSIDERATIONS FOR HEMPEL

The criteria above were, in part, formed by the collaborative process between Hempel and the CCA to simulate a materiality assessment. Considering again the two examples of plastic pollution and circular materials, we can see how the checklist helps to inform decisions of impact materiality. **Engagement with stakeholders is a critical task to actually assessing impact materiality.** As such, the infographic below details the stakeholders

Hempel would approach to undertake this task in actuality, and the means of engagement identified to do so more effectively. It should be noted that such engagement wasn't the exercise undertaken here, the materiality assessment here is based on estimated conclusions from Hempel and the CCA.



Figure six shows the results of a stakeholder mapping exercise performed by Hempel and the CCA. **The Hempel stakeholder mapping**

Plastic waste

Plastic waste could be generated and released to the environment at several points across Hempel's value chain. Looking downstream, some of these points are the deterioration of coatings over time, during paint application (e.g. improperly disposing of leftovers), during surface preparation (e.g. blasting or stripping paint to apply a new coating) or at the end of life of the underlying asset (e.g. building demolition). For Hempel's own operations, as well as upstream

(i.e. polymer suppliers), plastic waste could find its way to the environment through unsustainable waste management practices (e.g. landfilling) or through wastewater.

Plastic waste is increasingly recognised by the public, the scientific community and legislators as an issue of increasing concern. Regulatory proposals already exist to expand existing restrictions on plastics use, to a wider set of plastic types and applications.^{22 23}

IMPACT MATERIALITY ASSESSMENT - PLASTIC WASTE	
What kind of impact is relevant?	How do I know if the impact is significant?
<p>In contrast to other sustainability issues, whose impact on the environment have been quantified and thresholds established (e.g. GHG emissions and climate change), plastic waste has not yet reached this level of maturity. However, plastic waste is considered a major sustainability challenge due to the high and continuously increasing concentrations of plastic found across ecosystems.</p> <p>Plastic waste represents an example of a primarily medium- to longer-term topic (future). In examples where products or packaging are poorly handled at the end of life, or where significant product degradation occurs, plastic waste could be considered as a downstream concern in the value chain (indirect), with a high potential to be of impact (potential).</p>	<p>NOTE: Actual engagement with stakeholders is the critical task to assess impact materiality. This is based on estimations.</p> <p>Questions to answer:</p> <p>i) What is the scale of the impact?</p> <p>Plastic waste is now found in high concentrations in many terrestrial and marine ecosystems and these quantities are expected to continue growing in the coming years.</p> <p>ii) What is the scope of the impact?</p> <p>Plastic waste can be harmful to a variety of animal species when it disrupts their habitat or when it is ingested.</p> <p>iii) Is the impact irremediable?</p> <p>Undetermined</p> <p>The wider salience of plastic waste as an issue means that any company that includes a significant amount of plastics in its value chain should deem the issue material, regardless if all the information is on the scale or irremediability is fully established.</p>

With this in mind, Hempel can both assess its current level of maturity by looking at which of the existing metrics and policies address plastic waste and which new metrics it will have to implement. For example, Hempel is already tracking waste generation and waste management practices in its own operations and is on track to achieve its target of zero landfilling by 2025. It tracks the amount of plastic used in the packaging of its products and aims to reach 50% recycled content by 2025. Hempel is also implementing take-back schemes (either alone or in collaboration with its peers and the public) with collection points where customers can return both packaging waste and paint leftovers thus ensuring they will not end up in the environment. Finally, Hempel tracks and encourages better waste generation & management practices in its supplier questionnaire.

Identifying plastics as a material issue could result in the introduction of additional metrics which would allow a better understanding of the impact and reveal opportunities for action. For example, (i) tracking and reducing the share of plastic waste from own operations and the concentration of plastic in the wastewater, (ii) tracking and increasing the plastic packaging collected as a share of the plastic packaging introduced in the market, (iii) offering services that track and minimise plastic waste during paint application (iv) tracking and reducing the amount of plastic used in products or developing plastic-free solutions.

When a quantitative impact assessment on a material topic is not possible with existing knowledge and data, the narrative approach outlined above is a suitable way forward. The narrative reporting is as important as the metrics themselves and provides the opportunity for Hempel to explain its approach to reporting on plastic waste, and to detail how it plans on improving impact analysis in the future.

Circular materials

The use of circular materials in paint remains in its infancy and so there are a lot of unknowns. A circular material does not guarantee that (i) the carbon footprint would be significantly lower (it could be higher in some cases) and (ii) that environmental impacts other than carbon footprint would be lower (there is often a trade-off that needs to be properly evaluated), but there is significant potential if these benefits are to materialise with sufficient R&D.²⁴ Also, there is still high uncertainty with respect to the standards and certifications for circular content that will become widely accepted.

Hempel already offers a bio-based product family in its decorative business, and there is a growing market for paint products derived from renewable sources, but as of now these make up a very small portion of the total industry. Significant R&D efforts are required to create an affordable offering for bio-based paint solutions, but given Hempel's market share, the business is well placed to take the lead in this effort.

The lack of existing solutions for circular materials in the paint industry means that it is difficult to determine whether the topic is currently material to Hempel. In terms of sustainability reporting however, the lack of solutions is even more of a reason to initiate policies and action plans to develop new ones and better determine impact. Developing targets to do so will be challenging given the infancy of existing solutions, but as with plastic waste, leaning on the narrative reporting to explain Hempel's position and intentions will be relevant in this case. The use of circular materials is also a good example of a topic that is likely to overlap with multiple ESRs. Given that it also relates to other sustainability issues, such as climate and water, there is even more reason to consider it as material and start taking action today.

IMPACT MATERIALITY ASSESSMENT - CIRCULAR MATERIALS

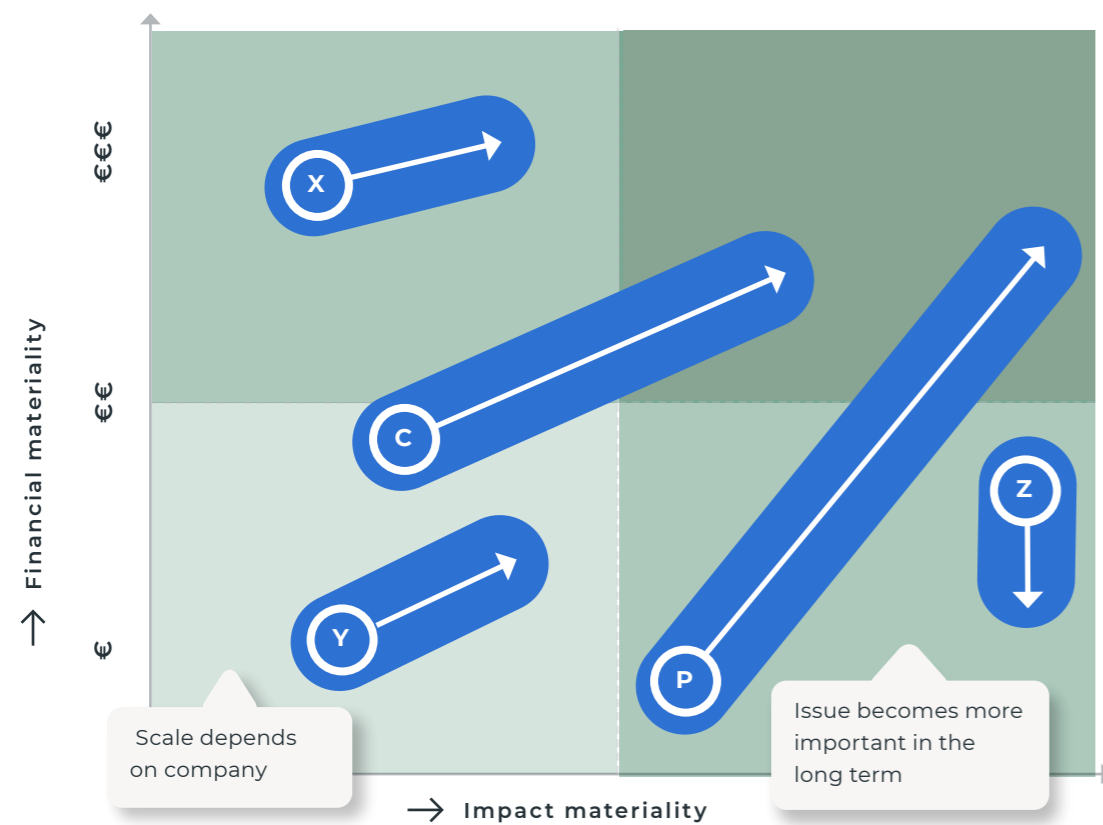
What kind of impact is relevant?	How do I know if the impact is significant?
<p>The use of circular materials, primarily from renewable and bio-based sources, in the paint industry are a relatively new phenomenon.</p> <p>The potential of these solutions represents a significant opportunity for the paint industry to restrict its reliance on non-renewable virgin resources such as petroleum-based materials, as well as other chemical inputs (potential, positive). The actualities of such might not occur until the long term (future), but given Hempel's market share, the business is in a strong position to lead efforts towards circular material solutions in the industry.</p>	<p>NOTE: Actual engagement with stakeholders is the critical task to assess impact materiality. This is based on estimations.</p> <p>Questions to answer:</p> <p>i) What is the scale of the impact?</p> <p>Curtailing the paint industries' reliance on non-renewable virgin materials could have a significant positive impact on carbon emissions</p> <p>ii) What is the scope of the impact?</p> <p>If environmentally beneficial circular paint products develop a sizeable market, then the scope will be widespread.</p> <p>iii) Is the impact irremediable?</p> <p>Not relevant</p> <p>The immediate action Hempel can take on this topic is limited to research and development. But in the coming years the use of circular materials could instigate a radical shift in carbon reliance for the paint industry. Hempel should display its acknowledgement of this in its sustainability reporting, and develop policies and actions that put the business at the forefront of this research endeavour.</p>

Financial materiality

The financial materiality process reflects the outside-in perspective of double materiality, meaning how social and environmental material topics affect companies' financial performance. Financial materiality plays a pivotal role in identifying how a company is affected by its dependence on the availability of natural and social resources at appropriate prices and quality, independent from impact materiality.

A sustainability topic may be financially material when it is relevant to any user of the financial report—investors, lenders, creditors and, of course, the business itself—typically determined by its current or potential impact on the business's financial health. Here, financial health relates to metrics such as profitability, cash flows, cost of capital or access to finance. Financial materiality assessment takes into account the following factors:

1. Likelihood of occurrence
2. Potential size of financial effects



POTENTIAL MATERIAL TOPICS:

- P:** Plastic pollution
- C:** Circular materials
- X:** Topic X
- Y:** Topic Y
- Z:** Topic Z
- Double material issues** (Dark Green)
- Material issues** (Medium Green)
- Low material issues** (Light Green)

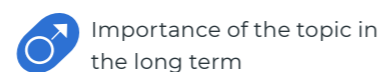


Figure seven shows an example of the double materiality analysis for Hempel, based on the simulation of the materiality assessment. An example output of the materiality assessment.

Financial materiality assessment processes can build upon existing Enterprise Risk Management (ERM) frameworks already employed by businesses, which may serve as tools for identifying, evaluating, and mitigating the risks that might affect strategic objectives or business continuity. The potential size of financial effects has to be considered from a monetary perspective, assigning a potential or actual monetary amount to each risk or opportunity identified in ERM activities. If this is not possible, a ranking system such as Low-Medium-High or a scale could be applied. If the ERM is mature enough, it will already have integrated sustainability topics into financial risk assessment, and some or many of the identified topics might already be covered by the existing system, providing valuable and, where possible, quantified inputs for the double materiality assessment.

What is seen from business practice, though, is that this is not always the case. Without a mature ERM, it may prove challenging to understand the financial effects of sustainability issues—especially with the need to differentiate between the short-, medium- and long-term horizons as well as actual and potential ones. Quantification can be done through the involvement of experts in the field, benchmarking with peers, leveraging previous years' experience and relying on the financial reporting topics that are most closely related to ESG topics already identified. As more data is gathered, the quantification will become more accurate.

Where a quantitative assessment is not possible initially, other approaches can be considered in the interim:

1. Identify and list current and potential sources of financial risks or opportunities: Apply a qualitative approach through interviews and surveys with internal stakeholders such as the financial management team and external experts that understand possible regulatory and reputation implications that might occur.

2. Take the next step: Apply identified quantitative thresholds to qualitative assessment results from the previous cycle, such as assigning a monetary value to items previously ranked at low-medium-high. This allows businesses to add a quantitative perspective to a qualitative assessment.
3. Data-driven approach: The mature and advanced approach integrates sustainability topics into the general corporate ERM system and evaluates risks at the same level as other, more traditional financial risks.

By building the approach on existing processes, businesses not only realise cost savings but also foster better-informed communication with the internal stakeholders that are regular users of these frameworks. Consequently, this enhances the likelihood of securing buy-in for subsequent actions, strengthening the organisation's ability to bring meaningful change.²⁶

2.3 GETTING THE MOST FROM YOUR MATERIALITY ASSESSMENT

It is expected that over the first few years of reporting, companies will learn and continually improve their methodology for the determination of material topics. The double materiality approach may seem challenging at first, but in the early stages of CSRD reporting, the worst thing a business can do is ignore the processes that are clearly defined in the legislation.

Use what you've already got:

Using what's already there is the best way for any business to start. Beginning the double materiality assessment by reviewing existing risk management and due diligence frameworks is a proactive way to start building a longlist of material topics for assessment. For some of these topics, previous risk assessments may even cover some of the impact materiality assessment itself, with only a brief stakeholder consultation then required to confirm the conclusions. Moreover, conducting a peer analysis of material topics to identify additional entity-specific matters is another good first step, together with considering what companies already have in place. The added benefit of taking this approach is that it helps to develop a unified understanding of the sustainability challenges your business faces across the different ESRs, and will serve as a very useful guide for financial materiality evaluations.

Take ownership of your materiality assessment:

Undervaluing the first stage of the process—developing the topic longlist—will set you up for a far greater challenge in the longer term as fringe topics begin to materialise. Make sure any topic that can be considered as a FIPP impact is included in the longlist to ensure that there are no glaring omissions when it comes to filing your reports. Stakeholders take centre stage in the materiality assessment, but that is not to say that they are required to come forward with every possible material topic. Many stakeholder issues affect underrepresented groups, as well as 'silent' stakeholders in nature. The onus is

firmly on businesses to take a proactive role in stakeholder identification, contact and discussion. In cases where the stakeholders are non-human but some form of nature or biodiversity, representatives in the form of interest groups or activists should be used in place. Additionally, it is important to understand that reporting on a longer list of topics does not necessarily make a company more 'sustainable' but better prepares them for future reporting requirements.

Don't hide behind unknowns:

The double materiality assessment requires businesses to show a level of judgement and estimation in determining material topics. As with the Hempel examples documented in this section, there may be topics where the exact impact is difficult to quantify or is not yet clear. This, for some, might result in only the most obvious of topics being considered material in the assessment process. Instead of ignoring any topics where the exact impact is unknown or occurs elsewhere in the value chain, the task is to build a more comprehensive understanding of your business's impact on these topics. Taking the Hempel case of plastic pollution, for example, despite a lack of clarity on how culpable Hempel is in the worst effects on biodiversity, the company has documented research on the subject matter through published position papers and is engaging with other industry players to address the issue. This is not only a very proactive way to tackle emerging sustainability issues but is also something that differentiates progressive businesses in reporting.

Put stakeholders at the centre of your process:

Comprehensive engagement with varying stakeholder groups provides a transparent rationale for selecting material topics and builds trust in the sustainability credentials of businesses. Effective communication with both external and internal stakeholders in this way forges buy-in for sustainability endeavours and can help guide strategic decision-making on sustainability topics outside of the materiality assessment process. As the next section will detail, this holistic approach to compliance opens up opportunities to strategise and innovate, basing decisions on measurable targets and linking sustainability concerns directly to business operations and outcomes.

In sustainability reporting under the CSRD, **the only way to get something completely wrong is to ignore it altogether.** At least for the first few years, stakeholders can be expected to be understanding of the fact that a company cannot address all impacts at once, especially as there is not yet one 'right' answer to many sustainability-related challenges. So be transparent in what you do know and acknowledge what you don't. Be clear on why you do act on some sustainability topics and acknowledge why you do not act on some others - yet. What is most important is that all relevant material topics are recognised, that you can demonstrate meaningful action on some, and recognise the steps that you will still need to take.

Beyond that, the businesses that seek to benefit from the new reporting requirements will be those that see the new context of double materiality not as a nuisance but as an opportunity. By leveraging the materiality assessment to build a comprehensive understanding of the sustainability topics relevant to the business and its value chain, companies will be far more equipped to navigate the circular transition and transform into a future-proof business. The increased accessibility of customers and financiers to understand businesses' sustainability credentials will provide frontrunners the ability to differentiate themselves easily. As the Circle Economy Value Driver Framework²⁷ displays, there are also considerable synergies between circular economy initiatives and commercial optimisation strategies. Reducing material use often leads to cost savings, as well as mitigation of ever-growing linear risks.

3 - SELECTION OF INDICATORS

The CSRD will require quantitative, qualitative and digitally tagged reporting on a majority of material topics by the time it is well-established. Once met, this potential is vast—50,000 European businesses will be directly comparable based on the performance of over 100 different metrics. Customers, governments and financiers will have comprehensive oversight of the businesses that aid social and environmental health and those that diminish it. For progressive businesses looking to distinguish themselves as circular pioneers, the task is to report on relevant topics as effectively as possible—this means selecting the most clear and indicative metrics.²⁷

Where the previous section of this paper details the process behind determining which topics are material, this section will look towards the selection of indicators businesses can use to report on them. As with the materiality assessment, the introduction of double materiality shifts the reporting requirement quite significantly, and it is important for businesses to understand that their existing financial reporting will not be sufficient in the context of double materiality. As such, new processes of data gathering and analysis will need to be developed, and significant coordination is required.

Therefore, companies face a choice: treat the reporting requirement as just that, and leave it for the sustainability or finance team to complete as best as possible. Or, recognise the opportunities that arise from bringing the entire business together to track sustainability performance and utilise the findings to engage in better strategic decision-making throughout the organisation.

As this section will outline, the narrative shift provided by the 'inside out' nature of double materiality provides a unique opportunity for sustainability teams to engage the wider business in discussions around values and purpose. The mandatory requirement to consider impact on the world should provide

the impetus to reset the vision of the company, if required, and bring the whole organisation together to initiate wide-scale transformation. This is a process that begins with the materiality assessment but is defined by the selection of indicators and the approach to reporting on material topics.

SELECT INDICATORS

2

3.1 REPORTING ON MATERIAL TOPICS

Meeting the disclosure requirements

ESRS 1 breaks the topic of the circular economy into three subtopics: (1) Resource inflows, including resource use; (2) Resource outflows related to products and services; and (3) Waste.²⁸ For any business where circular economy topics are deemed material—expected to be any that uses materials in some way, any manufacturing company, et cetera—ESRS E5 then lists several disclosure requirements that should be reported on if material. For businesses that have determined each of the sub-topics of ESRS E5 as material, the minimum requirement will be to report on the disclosures stated in the Standards. To aid businesses required to report on ESRS E5 in full, Circle Economy developed an indicator repository designed to cover each E5 disclosure.²⁹ The summary of these indicators is provided in Figure eight.

Use the gap analysis to define a vision

These indicators can form the basis of ESRS E5 reporting, so a logical first step is to engage in a data gap analysis to determine whether or not your business has access to the necessary data that can inform quantitative analysis on each. The data gap analysis is the opportune moment to bring in other teams throughout the business,

as many of the indicators listed will require input from different stakeholders from different departments. Engage all relevant people for the data gap analysis, and use it to set the vision of your organisation. In thinking through what data you can't currently access, you can also forge an understanding of what innovations and opportunities might arise once you are able to bridge those gaps.

Figure eight presents a set of indicators recommended to meet the metric requirement of ESRS E5, Resource Use and the Circular Economy. **Recommended indicators.**

MEASURING ACTUAL CIRCULAR PERFORMANCE			
Measurable Targets E5-3	Resource inflows E5-4	Resource outflows E5-5	Financial effects E5-6
<ul style="list-style-type: none"> • Circular Economy Targets • Recycled/Reused raw materials targets • Waste-related targets • Targets related to improving water resource management • Circular product design targets • Targets for a sustainable use of renewable resources 	<ul style="list-style-type: none"> • Total Material use • Recycled Input materials • Renewable input materials 	<ul style="list-style-type: none"> • Product Durability/ Longevity • Product Reusability • Product Repairability • Product Disassembly • Product Remanufacturing/ refurbishment • Product Recyclability • Product Recirculation into Biological cycles • Outflow recovery potential • Total waste generation • Actual recovery • Circular outflow • Many more on hazardous material 	<ul style="list-style-type: none"> • Revenue at risk from dependency on linear processes (finite resources, etc) potential • Total waste generation • Actual recovery • Circular outflow • Many more on hazardous material

SETTING THE HEMPEL VISION

As with the materiality assessment, Hempel, alongside the CCA, engaged in a thought exercise related to the selection of indicators for ESRS E5 reporting. To broaden the scope of this work and to properly highlight the potential of the process, the topics were not restricted to the two discussed in the previous section—plastic pollution and circular materials. Instead, three of the stated reporting requirements of ESRS E5 were considered as a focal point: E5-4 renewable inputs, E5-5 resource outflows and E5-6 financial effects.

The main question posed in this exercise was how Hempel could utilise the new data once it becomes CSRD compliant. The aim here was to consider innovations that fully embrace the circular economy and the transformative nature of ESRS E5, with the remit to be as ambitious as possible, excite internal stakeholders by placing them at the centre of the circular transition, and begin to think how a data-driven approach can inform new circular business models.

Hempel's high-level data gap analysis showed that only very few of the core ESRS E5 indicators could be reported on effectively today, meaning that a sizable data-gathering task is required.

Identifying opportunities for innovation

For each of the three disclosure categories, Hempel and the CCA engaged in a workshop to identify innovations to improve circularity that might arise from accessing the relevant underlying data. The key outcomes were as follows.

E5-4 Resource inflows:

i) Bio-based paint product line or brand acquisition

By reporting on indicators such as recycled or reused input, Hempel may identify bio-based paints as a potential opportunity for new business. By investing in or acquiring such capabilities, Hempel can differentiate itself from competitors and expand its range of product offerings while simultaneously meeting the growing demand for more sustainable products. This also has the potential to position Hempel as a leader in sustainable paint solutions.

ii) Reduce GHG emissions from material inputs

By reporting on indicators such as total material use, total emissions/emissions reductions, Hempel could explore and identify new opportunities for material and greenhouse gas (GHG) reductions throughout its operations. Such a commitment to more sustainable practices not only contributes to Hempel's brand image but also attracts like-minded customers.

iii) Enhanced product differentiation

By reporting on indicators such as renewable and recycled inputs, Hempel may discover opportunities to reduce reliance on a single product, market or critical raw material, thereby mitigating risks associated with demand fluctuations. Additionally, through acquisitions or investments in research and development, Hempel could enhance its capabilities and further establish itself as an innovative leader in the chemicals sector.

THE GAP ANALYSIS

ESRS Indicator	Data availability (Yes, Partial, No)			Comments
	Paint	Packaging	Other	
E5-4 Resource Inflows				
Total material use	Yes	Yes		Data quality/accuracy for packaging is poor
Recycled/reused input	No	Yes		Recycled (PCW) plastic in decorative packaging
Renewable input	No	No		
E5-5 Resource Outflows				
Durable products				
Reusable products	N/A	Partial		Some packaging is reusable, repairable, manufacturable or modular and its possible to measure quantities based on existing data. Some paints can be remanufactured or recycled but there is no classification system yet.
Repairable products	N/A	Partial		
Modular products	N/A	Partial		Data quality/accuracy for packaging is poor
Remanufacturable products	No	Partial		Recycled (PCW) plastic in decorative packaging
Recyclable products	No	Yes		
Biodegradable/compostable products	No	No		
Recovery potential	No	No		
Actual recovery	Partial	Partial		Hempel recover paint & packaging in UK and AU
Circular outflow				
Total waste generated	Yes	Yes	Yes	
Hazardous and non-hazardous waste	Yes	Yes	Yes	
Breakdown to disposal and recovery	Yes	Yes	Yes	
Breakdown of waste streams	Yes	Yes	Yes	
Breakdown of materials	Yes	Yes	Yes	
E5-6 Financial effects				
Revenue loss due to supply risks	No	No	No	
Revenue from circular products/services	No	No	No	

E5-5 Resource outflows:

i) Develop classifications for which paints/products can be recovered and reused

By reporting on indicators such as recoverability potential and actual recovery of products, Hempel may consider developing classifications for the recovery and reusability potential of its products, demonstrating a strong commitment to responsible resource use. This not only showcases environmental responsibility but also opens up potential for new revenue streams when entering new markets, as well as the possibility of offering additional services in line with its sustainable practices.

ii) Introduce a take-back scheme for unused products

By reporting on indicators such as the reusability of products/packaging and actual recovery, Hempel may explore the viability of implementing a take-back scheme as a promising new business venture. This endeavour would likely involve forming collaborations and partnerships with supportive organisations to deliver such services to customers. In turn, this can attract more customers and foster valuable knowledge sharing. Additionally, such initiatives have the potential to enhance customer loyalty by increasing engagement and raising awareness about Hempel's commitment to sustainability.

iii) Build an understanding of waste/leftover paint and where they occur in the operational process to better account for losses.

By reporting on indicators such as waste generation and GHG emissions, Hempel may gain insights into areas where waste or leftover paint occurs in its operational processes. This knowledge would enable Hempel to explore ways to streamline manufacturing processes and set industry standards for reducing material usage during operations. Such initiatives would also lead to improved resource efficiency for the company.

E5-6 Financial effects:

i) Introduce a pay-per-use system

By reporting on indicators such as revenue from circular products, Hempel may identify the potential benefits of implementing a pay-per-use business model. Introducing this model can enhance resource efficiency and mitigate resource consumption by reducing the total amount of paint required per customer, delivering it on a need basis. This approach not only minimises risks associated with supply shortages but also fosters customer retention and loyalty.

ii) Create new revenue models with partner organisations

By reporting on indicators such as revenue loss due to supply risks, Hempel may identify opportunities to generate new revenue streams by offering additional services that improve the circularity of the business and decouple success from resource-use (for example, 'walls as a service'). This strategic approach not only attracts new customers but also fosters knowledge-sharing through collaborations with other companies. In demonstrating a commitment to responsible resource use, Hempel sets itself apart from competitors by being a leader in more sustainable activities.



Target the indicators with the most marginal gains

Following the materiality assessment, there will be more material topics than those mandated by the ESRS, and these will also need to be reported on. At this stage, the first and most effective thing to do is to cross reference the material topic list with the suggested indicator list in Figure eight and identify which topics can be covered by which indicators. It is probable that some indicators may cover a number of different material topics, so it makes sense to focus on these first.

Given that some topics determined during the materiality assessment might be somewhat more niche than those mentioned in the ESRS, you are likely to be required to identify your own indicators outside of those mentioned in the Standards. It is fully expected that some businesses will introduce their own reporting methodology and introduce a number of indicators that are not explicitly mentioned in the ESRS. To do so, consultation with existing indicator repositories is highly advised.

Prominent repositories include the CTI,³¹ GRI301 and 306,³² Circulytics³³ and the Circle Economy Knowledge Hub,³⁴ as they document many more indicators than those affiliated with the mandatory topics in ESRS E5. By prioritising the indicators that cover the most different material topics (also beyond ESRS E5) and gathering data that can be used to inform a variety of different indicators, the quantitative report task should become less daunting.

Once the list of indicators is determined, the availability and reliability of the underlying data needs to be addressed. This will, in all likelihood, be a comprehensive task potentially spanning a number of years, depending on the maturity of your reporting practice. Data gathering will require regular input from partners across the value chain and will also need to forecast future scenarios rather than just dealing with historical information. The planning of this process should continue to involve a host of internal stakeholders, as it allows various teams throughout the organisation to start thinking about how insights required for ESRS E5 reporting can aid them in making better decisions and allow them to contribute to circularity.

LEVERAGING DATA TO MAKE INFORMED DECISIONS: WHAT HEMPEL LEARNT

As we've seen, to select and inform indicators for ESRS E5 reporting most effectively, it is necessary to seek input from across the organisation. In order to ensure buy-in from internal stakeholders, the indicator selection can and should be framed in a way that encourages and excites these groups due to the benefits it can provide them.

As such, Hempel underwent a process to consider how comprehensive circular economy reporting might impact different teams in the business and how the insights gained from the new level of data available might inform better, more circular decision-making. To do so, Hempel considered three broad stakeholder groups within its business. These groups were (i) sales professionals involved in the marketing and selling of various Hempel products; (ii) operations professionals involved in manufacturing, logistics, and products design; and (iii) finance/investment professionals involved in ESG, investor relations, procurement, mergers and acquisitions.

For Hempel, competitive marketing through transparency strategies and well-utilised resource efficiency data for publications would help secure buy-in from sales colleagues, as it would aid their business development approach. The new level of insight available to operations teams would be persuasive in the development of new business cases related to product take-back. A better understanding of the financial effects of circular revenue models would introduce new possibilities for approaches currently considered out of scope, such as servitisation.

In summary, Hempel's analysis of CSRD reporting requirements and its data availability on selected indicators revealed a range of different use cases to improve existing decision-making. By tailoring the narrative to internal stakeholders, Hempel aims to create internal buy-in and promote a comprehensive understanding of the potential benefits and strategic advantages associated with pursuing such opportunities.

CSRD TOPICS AND OPPORTUNITIES	KEY INTERNAL STAKEHOLDERS		
	Sales	Operations	Investments
<p>Renewable inputs</p> <ul style="list-style-type: none"> • Introduce more bio-based paint product lines or consider a brand acquisition • Take greater GHG emissions reduction measures • Adopt new product differentiation strategies 	<ul style="list-style-type: none"> • Staying ahead of the competition - shifting the business model completely and focusing more on long-term objectives/ changes • Sharing Hempel's ambition and keeping the sustainability journey at the center of the marketing message 	<ul style="list-style-type: none"> • When investing in a new plant/production line: information tradeoff between potential increased CO₂ emissions from low-footprint resources is key • Use of MAC curves to determine the actual cost of reducing CO₂ emissions 	<ul style="list-style-type: none"> • Many inter- dependencies for double materiality assessments • More effective target setting for green bonds & loans • More accurate benchmarking against competitors • Easy to estimate the economic success of potential servisation approaches
<p>Resource outflows</p> <ul style="list-style-type: none"> • Develop take-back schemes of reusable paint for repurposing into new products • Develop classifications for which paints/ products are capable of being recovered and reused • Build a better understanding of waste/leftover paint and where they occur in the operational process can lead to better accounting for losses. 	<ul style="list-style-type: none"> • Customer costs are reduced when the paint is applied by Hempel - helps avoid application loss as much as possible, and increases paint transfer efficiency • Differentiated Hempel to business customers that have material reduction targets themselves • Paint recycling classifications can help to prioritise take-back schemes, new market entry and new customer bases 	<ul style="list-style-type: none"> • Information on recovery potential and hazardous contents per product (line) is vital to build business cases on (for example) reverse logistics • Inflow/outflow information coupled with internal incentives (e.g. performance metrics) 	
<p>Financial effects</p> <ul style="list-style-type: none"> • Consider the potential of a pay-per-use system • Create new revenue models with partner organisations • Improve risk mitigation strategies 	<ul style="list-style-type: none"> • To get the best out of paint in terms of functionality and impact on the environment /supply-chain, a service-based model can align all of these objectives for the customer and company • Making the environmental challenge not abstract to the customer 	<ul style="list-style-type: none"> • Financial information might be the most convincing information for plant managers etc. for operational costs reduction potential 	

3.2 HOW TO GET THE MOST OUT OF YOUR INDICATOR SELECTION

Across the entirety of the CSRD, it is expected that businesses will have to report on over 100 different metrics as a minimum. Compliance with the new directive requires consideration of future impacts, potential impacts and impacts that occur elsewhere in the value chain. Data stewardship will need to be planned for, and a transparent audit trail must make clear how and why each conclusion is made. Put bluntly, it is not feasible for one or two teams within the business to manage the process in a short space of time and without input from others. The outcome would, at best, be a disjointed report removed from the strategic planning of the business; at worst, it could result in an output not even deemed satisfactory in the eyes of the auditor.

It is then important that the remit of the reporting task is spread throughout the business, assigning ownership of different topics and indicators to the teams that are most responsible for the outcomes to ensure broad and effective governance. This not only shares the task load, but also helps to embed sustainability concerns at the heart of the business. It is beneficial for different teams to first think about how data capture can be used to inform capital expenditure decisions, procurement, et cetera as well as opportunities to compare sustainability metrics with more traditional financial results. Engaging the entire business and connecting ESRS E5 indicator outcomes to internal KPIs is the only way to ensure the transformational nature of the CSRD is properly embedded in the organisation.

Assign ownership and embed reporting into existing strategy

If not already the case, it is pivotal that senior management is on board and feels responsible—if leadership do not see the value in integrated reporting, then resources will not be made available for the exercise. Proper governance is needed, and it is recommended to include responsibility for the sustainability strategy as part of the monthly or periodic financial reporting stream.

Focus on impact

It is also not advisable to simply take the indicators provided by the ESRS and run with them. Many of these are headline indicators that are particularly valuable in their ability to compare businesses at scale. There are a host of indicators—often that can be informed by the same underlying data—that may be more efficient for your organisation to prioritise. These can perhaps be identified from the existing sustainability strategy your business might have—indicators could link to existing targets your business has set, with the added benefit of having the analyses integrated into your overall strategy. Frameworks such as science-based targets (SBTs), some of which are included in ESRS E1, are a particularly strong way to show commitment to the reporting endeavour, as they are specifically designed to reduce business impact on the environment. Having your targets accredited by the Science-Based Targets initiative, for example, allows your business to demonstrate that its sustainability strategy is aligned with the Paris Agreement and the latest climate science.

In regard to ESRS E5, it is most effective for businesses and the wider world if impact indicators are used to bridge the gap between advancements in the circular economy and the actual impact this is having on the environment. Some customers or financiers may not be entirely clear on the critical role circular economy strategies have in mitigating climate change, pollution and biodiversity loss. So if your reporting strategy indicates not only the level of circularity in the business but also how circular economy approaches are addressing these core environmental concerns, you can ensure that you will remain one step ahead.

Build an iterative approach

Despite the breadth of the reporting requirement, the legislation allows companies to build up their sustainability reporting methodology over time, providing the cost of obtaining that information is unreasonable. Comprehensive quantitative reporting for every indicator is not expected in the first year, but a clear plan for reaching that level will be. For topics and indicators where data is not immediately available qualitative reporting is valid at first, but it should include a detailed description of how data availability issues will be addressed in the coming years. Engage with data specialists to build up the quantitative capabilities over the course of the first three years and grow the capacity for effective reporting—this is the perfect opportunity to develop into a data-driven organisation.

Leverage what you learn

As seen with the Hempel case, there is a huge benefit to ensuring indicator learnings encourage and excite your internal stakeholders through the benefits they can provide. Product design teams' KPIs can align with indicators on material inflows and outflows; sales teams can think through targets related to new opportunities or business models. By selecting indicators that really highlight opportunities or help mitigate risks—especially financial ones—you have the opportunity to give various teams across the business the agency to start taking action on sustainability. By embedding the indicator reporting process in this way, you build a holistic approach to addressing environmental topics that makes CSRD compliance markedly easier and fundamentally realigns your organisation's commitment to sustainability.

4 - FROM BOX-TICKING TO GROUNDBREAKING: EMBRACING THE SYSTEMIC POTENTIAL OF THE CSRD

If considered as a systemic means to shift the remit of businesses to incorporate societal and environmental purpose alongside profit, the potential of the CSRD to initiate radical change can not be understated. Shareholder primacy has proven deeply contributory to the consideration of the environment as a resource to be extracted from and exploited, and that, in part, is how we've reached the point we're at today. Even if its outcome is meagre, the CSRD will highlight those organisations not committed to aiding the sustainable transition. At its most impactful, however, it can be the catalyst for a shift towards a multi-stakeholder approach for operating businesses that would significantly enhance our collective capacity to mitigate the worst effects of climate breakdown.

For the individual businesses excited by this potential future, the question remains how exactly to embrace the radical and systemic nature of the new legislation:

Be interactive: CSRD reporting provides the opportunity to engage your whole business in the drive to be more sustainable. Ensure that everyone is aware of why such changes are being made, but also why their input is essential. Communicate with internal stakeholders on the topics they see as important and where they see the added value of gathering and analysing more data. It is inspiring for staff to know they are ambassadors for the sustainable transition in your business, and it will make compliance far less daunting if the task is shared. Beyond your own employees, ensure that external stakeholders are part of the process. Be proactive with your identification of

potential stakeholders and ensure they are aware of your motivations for engaging with them. Develop relationships with them and build a network that will aid with future topic identification and assessment. The most progressive businesses will move their business forward because they involve their stakeholders beyond consultation to instead bring them into the decision-making processes of the business—this is the only way to truly enact the multi-stakeholder approach.

Integrate: View compliance with the CSRD not as a nuisance or a distraction from the status quo but as a guide to embed sustainability concerns at the heart of the business. Make the reporting endeavour holistic by integrating existing tools into your process and leveraging work you've already done. Due Diligence and Enterprise Risk Management frameworks will be explicitly relevant to the materiality assessment and can help to quantify risks, opportunities and impacts related to sustainability topics. When selecting indicators, choose those that align with other business KPIs, existing targets in your sustainability strategy or desired areas for improvement across the business. This is an opportunity to set the path for a sustainable transition, and the indicator exercise should be considered as the means to track progress along this path. For material-focused companies like Hempel, whose sustainability credentials rest heavily on the circular economy strategy, ESRS E5 is a critical concern that can cover many of the other ESRS requirements. Finally, it is essential that the learnings from the reporting endeavour are used to inform and pilot new circular business models that will help to decouple business growth from resource-use.

Embrace the ambiguity: The Directive doesn't expect businesses to get this all right the first time—businesses should be aware of that and leverage the increased flexibility of the first few years to build a more comprehensive approach. The first years of reporting are the moments to

take a deep look at the risks and opportunities that the coming years will bring and anticipate change. Build out a multi-year process to manage these risks and seize the opportunities. Provided there is a clear strategy for improving future reporting, there is some leniency—develop the processes required for extensive quantitative reporting and settle for qualitative analysis to start. For businesses that are humble and transparent in their reporting, the only way to get it completely wrong is to do nothing at all.

For the businesses concerned with the 'stick over the carrot,' the CSRD provides the impetus to start taking sustainability and circularity reporting seriously. For those looking to enjoy the 'carrot,' the shifting legislation will provide bountiful opportunities to emerge from the competition as a resilient, data-driven company committed to its social and environmental purpose.

REFERENCES AND ENDNOTES

- Hempel. (2023). Shaping a brighter future with sustainable coating solutions. Retrieved from: [Hempel Website](#)
- Hempel. (n.a.). Introducing Future Proof. Retrieved from: [Hempel website](#)
- Lee, H et al. (2023). Synthesis Report of the IPCC Sixth Assessment Report (AR6). Retrieved from: [AR6 Synthesis Report](#)
- KPMG, Copper8 & Kennedy Van der Laan. (2019). Circular Revenue Models paractical implications for business. Retrieved from: [Copper8 website](#)
- Bocconi University, Ellen MacArthur Foundation & Intesa Sanpaolo. (2021). The circular economy as a de-risking strategy and driver of superior risk-adjusted returns. Retrieved from: [Ellen MacArthur publications](#)
- Circle Economy. (2018). 'Linear Risks': How business as usual is a threat to companies and investors. Retrieved from: [Circle Economy website](#)
- Circle Economy & Circular IQ. (2023). CSRD Tool. Retrieved from: [CSRD Tool website](#)
- European Commission. (2019). Communication from the Commission, guidelines on non-financial reporting: Supplement on reporting climate-related information. Retrieved from: [European Union Law communication](#)
- Global Reporting Initiative. (n.d.) The Global Standards for Sustainability Impacts. Retrieved from: [Global Reporting Initiative website](#)
- Sustainability Accounting Standards Board. (n.d.) Standards Overview. Retrieved from: [SASB Standards website](#)
- International Financial Reporting Standards (IFRS) (n.d.). International Sustainability Standards Board. Retrieved from: [IFRS website](#)
- European Commission. (2022). Amendin Regulation (EU) No 537/2014, Directive 2004/109/EC, Directive 2006/43/EC and Directive 2013/34/EU, as regards corporate sustainability reporting (pp. L322/24 Rep.). Retrieved from: [European Union Law](#)
- European Financial Reporting Advisory Group (EFRAG). (2022). Draft European Sustainability Reporting Standards. (pp.11-13, Rep.). Retrieved from: [EFRAG](#)
- Gabriel, T., Dixon C., Kean-Hammerson, J., Gammage, T. (2022). Issue No.41: On the road to success: Designing an effective plastics treaty. [UN environment programme website](#)
- National Geographic Society. (2022). Microplastics. Retrieved from: [National Geographic](#)
- European Parliament. (2023). Revision of the Packaging and Packaging Waste Directive. Brussels. Retrieved from: [European Parliament](#)
- European Commission. (2018). A European Strategy for Plastics in a Circular Economy. Retrieved from: [European Commission](#)
- World Wildlife Fund (WWF). (n.d.) A global Treaty to end plastic pollution. Retrieved from: [WWF Website](#)
- Shogren, R., Wood, D., Orts, W., & Glenn, G. (2019) Plant-based materials and transitioning to a circular economy. ScienceDirect, Sustainable Production and Consumption,19, 194-215. <https://doi.org/10.1016/j.spc.2019.04.007>
- Challener, C. (2021). Biobased Coatings: Making Initial Inroads. Retrieved from: [American Coatings Association](#)
- Turner, A. (2021). Paint particles in the marine environment: An overlooked component of microplastics. Science Direct Water resource X journal 12, 2589-9147. doi.org/10.1016/j.wroa.2021.100110
- European Commission. (2021). European Green Deal: Commission aims for zero pollution in air, water and soil. Retrieved from: [European Commission](#)
- UNEP. (2018). Single-Use Plastics: A Roadmap for Sustainability (pp. 2-16, Rep.). Retrieved from: [UNEP Publications](#)
- Gagro, D. (2021). Bright future for bio-based coatings. Retrieved from: [European Coatings](#)
- Deloitte. (2022). Balancing your materiality assessment. Retrieved from: [Deloitte website](#)
- Circle Economy & Sustainable Finance Lab, Nuovalente & TU Delft. (2016). Master circular business with the value hill (pp. 5-13, Rep.). Amsterdam: Circle Economy. Retrieved from: [Circle Economy website](#)
- United States Environmental Protection Agency (n.d.) About the indicators. Retrieved from: [EPA website](#)
- Circular Economy Indicators Coalition. (2023). Indicators. Retrieved from: [CEIC website](#)
- World Business Council For Sustainable Development & Circular IQ. (2023). CTI Tool. Retrieved from: [CTI Tool website](#)
- Ellen Macarthur Foundation. (2023) Circulytics. Retrieved from: [EMF website](#)
- Circle Economy (2023). Knowledge Hub. Retrieved from: [Knowledge Hub website](#)

COLOPHON

We would like to thank members of the CCA and their organisations for their valuable contributions. Their expertise, motivation and collaborative spirit resulted in a tangible and transferable outcome, accessible to all.

PROJECT LEAD

Jacco Verstraeten-Jochemsen

MEMBERS OF THE COALITION CIRCULAR ACCOUNTING

Niina Pussinen (ABN Amro)
Roos Lassche (ABN Amro)
Arthur Zantinge (Alfa Accountants and Consultants)
Carl Drenth (Alfa Accountants and Consultants)
Marleen Janssen Groesbeek (Avans Hogeschool)
Jeroen van Muiswinkel (Copper8)
Endri Olsen (Deloitte)
Adele Panenko (Deloitte)
Helen Miller (Deloitte)
Kritika Karthikeyan (Deloitte)
Marianna Papachristou (Deloitte)
Lucas Lemmens (Invest NL)
Maud Hartstra (Invest NL)
Mireille Ruberg (Invest NL)
Lucas Geusebroek (NBA)
Usha Ganga (NBA)
Diane Zandee (Nyenrode Business University)
Werner Schouten (IEF)

MEMBERS OF HEMPEL

Yorgos Chalkias
Maria Skovsted
Vasileia Stavrakaki

LEAD AUTHOR

Luke Bailey

CONTRIBUTING AUTHORS

Camilla Visconti, Daniela Prieto, Endri Olsen, Helen Miller, Marianna Papachristou, Adel Panenko

EDITORIAL

Megan Murdie, Ana Birliga Sutherland

DESIGN & LAYOUT

Isabel Lara Vega, Alexandru Grigoras,

For more information, please contact:

marvin@circle-economy.com
luke@circle-economy.com

PUBLICATION DATE

July 2023

This work is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License



PARTICIPANTS





circle-economy.com