

Higg Brand & Retail Module Guidance:

Conducting Environmental Risk Assessment

How to use this guideline

This document is designed to help companies that:

- Have not yet carried out a full risk assessment, and want to understand the relevant steps and data sources
- Are looking to update their risk assessment¹

Section outline and intended audience

There are three sections in this document:

1. What is a risk assessment and why is it useful?

For companies that are new to a risk assessment, this section explains why your company should carry out this assessment, and how to prepare for one.

2. Practical steps to carrying out a risk assessment

For companies that are new to a risk assessment OR are updating this assessment, this section covers each step of the process, including how to prepare for your assessment, what types of data you will need, who can help with the process and how to handle typical challenges such as uncertainty and data gaps.

3. When and how to dive deeper into specific identified risks

For companies that have completed their initial risk screening OR are updating their risk assessment. If you find that there are key risks coming up in your value chain that you will need to prioritise, or data gaps that you can't easily fix, this final section will help you to dig into the details of your priority risks.

¹ * The Organisation for Economic Co-operation and Development (OECD) recommendation is to revisit/update a risk assessment at least every two years.

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1. What is a risk assessment and why is it important?

For any business, understanding the key environmental risks and opportunities within its value chain can be pivotal in shaping an appropriate and effective sustainability strategy. A good environmental risk assessment helps a company identify its material focus areas, and prioritise the order in which corrective or preventative activities are carried out.

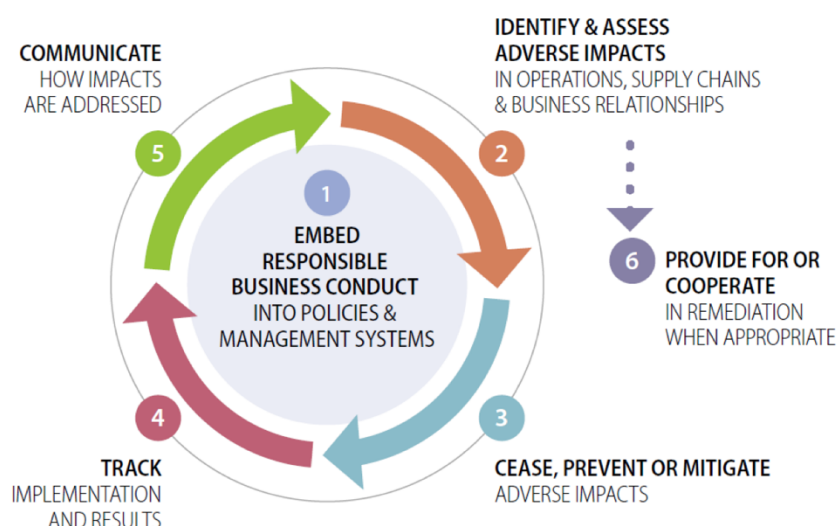
A risk-based approach can be particularly helpful in situations where full baseline impact data is not available or is too complex to calculate accurately – for example across a long, opaque value chain. It can also account for types of harm that it is currently challenging to capture using conventional methods – such as biodiversity or microfibre impacts.

Which organisations or resources help define what is in a risk assessment?

One of the main frameworks to reference when carrying out a risk assessment is The [OECD Due Diligence Guidance for Responsible Supply Chains in the Garment and Footwear Sector](#).

The OECD explores how a company can analyse and address their risks as part of a wider due diligence process designed to mitigate or prevent harm within the value chain. This document will follow the framework set out by OECD, but will simplify the process as much as possible, and focus only on risk assessment.

FIGURE. DUE DILIGENCE PROCESS AND SUPPORTING MEASURES



Source: *OECD Due Diligence Guidance for apparel and footwear companies*

If you would like to learn more about the wider Due Diligence process, the relevant 6 Due Diligence steps are outlined both in the OECD guidance listed above and in [this resource](#) created by the German Partnership for Sustainable Textiles.

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What are the key terms, and what do they mean?

Term	Definition
Due Diligence	The process through which enterprises can identify, prevent, mitigate and account for how they address their actual and potential adverse impacts (see the due diligence process diagram below)
Risk	<p>Environmental “Risk” covers potential or actual harm to individuals, other organisations or communities in relation to the environment. A risk is defined as an actual or potential threat of adverse impacts to the business, supply chain, workers, customers, communities, animals, ecosystems, climate, air, and water. A risk-based approach helps to explore the systemic or contextual elements that make harm from specific activities more likely or more severe.</p> <p>Risk is evaluated on the basis of likelihood and severity.</p> <p>Example: Water Risk When evaluating water risk of a factory using a specific volume of groundwater:</p> <ol style="list-style-type: none"> 1. Likelihood of environmental risk: In countries where ground water extraction is not regulated, it is more likely that over-use will occur. 2. Severity of environmental risk: if groundwater is already severely depleted there will be less available for local farmers or communities.
Harm	<p>For the OECD, the terms “harm” and “adverse impacts” are used interchangeably, but in this document, we will use the term ‘harm’ for consistency.</p> <p>Previously we explained that risk looks at the likelihood and severity of harm, and severity is judged on scale, scope and irremediable character.</p> <p>“Scale” refers to the gravity of the adverse impact. “Scope” concerns the number of individuals that are or will be affected. “Irremediable character” means any limits on the ability to restore those affected to a situation at least the same as, or equivalent to, their situation before the adverse impact. See example below on how a company could apply this.</p>
Risk Factors	Risk factors influence the level of risk. These risk factors are based on sector, business model, sourcing model and product. In the second part of this document each risk factor will be explained in more detail.
Risk Assessment	<p>A risk assessment aims to identify both the likelihood and severity of a potential or actual harm within the value chain. This is a slightly different and broader approach than something like a Life Cycle Assessment or a GHG emissions calculation, which aims to calculate a specific amount of harm or impact in a specific case e.g. product or material type.</p> <p>Based on all known information, the company should determine which risks of harm are most salient – in relation to likelihood and severity of harm – in its own operations and supply chain and prioritise those risks for action first instead of addressing all risks at once. This ensures that companies use their resources in the most efficient and effective way.</p>

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How do I apply severity and likelihood of harm?

Severity

- As explained above, severity is determined define by its scale, scope and remediability.
 - Risk to the environment is distinct in two ways:
- The severity of the impact on people and environment not the business;
- Severity should have greater weighting when prioritizing risk than likelihood.

Topic	Definition	Severity	
		Potentially less severe	More severe
Scale	How grave or serious the impact would be	A site is using only one source of fossil fuel for one generator	A site is running many large coal boilers and other major fossil fuel emitting processes
Scope	How widespread the impact would be (i.e. how much impact on the environment and communities)	One incident of water pollution in a limited area	Widespread of water pollution to a whole river or groundwater system
Remediability	How hard it would be to put right the resulting harm	Some deforestation occurs, but trees are re-planted and the ecosystem recovers	Major land use change means that a unique ecosystem collapses and is impossible to restore

Likelihood

- Likelihood is predicting how likely the risk may exist or occur in the company's operations and supply chain. This involves considering the risk factors such as countries the company is operating in and sourcing from (business and sourcing model), and the capacity of the company's business partners to effectively manage environmental risks.

When should I do a risk assessment?

Risk is not static and can change over time, so according to the OECD, risk assessments should be carried out every 2 years. The risk assessment can also be updated whenever there are significant changes to the operating processes, raw materials, sourcing locations or the business model of a company - or when new (material) information is raised to the organization through its complaint or grievance mechanism that could influence your company's strategy.

How can I get ready for a risk assessment?

As a first step, it is helpful to ensure that your organisation is prepared to carry out a risk assessment. Some key questions to answer are:

- Have you secured senior management or board level buy-in for the process?
- Do you have sufficient, qualified staff time available for carrying out the risk assessment?
- Do you need to identify third parties such as consultants, NGOs or an advisory committee, who can help you with the process of risk assessment, leverage external expertise and ensure that a full spectrum of potential risks are considered?
- Do you know much data is already held by your company on various parts of your value chain? Where is that data?

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2. Practical steps to carrying out a risk assessment

2a. Preparing for a risk assessment

What data do I need when I start a risk assessment?

The first step is to review and gather the information you **already have** for each stage of your value chain. Most companies will have gaps in the kind of data they can collect or monitor, so don't worry if this is the case for your company.

Types of data to gather (if possible):

- Location, size and type of your **owned and operated sites** - also referred to as 'proprietary' in the Higg BRM - e.g. any offices, stores, warehouses/DCs or other sites where your company is either the owner, or has day to day management of the site (e.g. a rented store)
- Any data available from **operational sites on their impacts** – e.g. sources and use of water, sources and use of energy, volumes of recycled and other waste, and other resource use such as consumables, packaging etc.
- Information on **transport and logistics**, such as resource consumption, customer delivery, logistics and transport from tier 1 suppliers to point of sale, and any logistics information beyond tier 1.
- Supplier** locations, sourcing volumes, on-site processes being carried out including information on the material being used, environmental performance on water, energy, waste, chemicals and material use through the Higg Facility Environmental Module, any verification or certification available - as far down the value chain as possible. In particular if your company does collect data on tier 1 and ideally tier 2 suppliers, this will help with the risk assessment process.
- Raw material** types, volumes, production locations (ideally at least to country or region) and any information you have on the production practices or certification
- (For retailers) - List of **brands sold** and whether those brands have carried out a risk assessment, or have completed the Higg Brand & Retail Module
- Any information available on **customer product usage**, customer sales volumes and geographical markets
- Any information that helps understand potential end-**of-use impacts** – e.g. whether major sales markets have good levels of textiles recycling, or whether your brand has mechanisms in place to support resale, take-back or repair

After gathering/collection the initial data for each of the above elements of your value chain, please use the data collection sheets (on Howtohigg.org) for the purpose of documentation and tracking.

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What types of risk should I consider?

When initially exploring risks across your business and value chain, there are several kinds of risk to consider according to the OECD:

- **Sector risk factors** – General risks the OECD has identified as likely risks for the apparel and footwear industry, such as hazardous chemicals, water consumption, water pollution and greenhouse gas emissions.
- **Business model risk factors** – The company’s business model, such as the number of product lines that it sells and how often those product lines are changed (i.e. seasons per year), may affect the risk of harm in the company’s supply chain.
- **Sourcing model risk factors** – The company’s sourcing model, such as whether is sourcing from a large range of suppliers, the nature of its contractual relationships and whether sourcing is direct or indirect – may increase (or decrease) the risks of harm in its supply chain.
- **Product risk factors** - Products that hold a higher risk of impact than others due to the processes (chemicals, greenhouse gas etc.) used to make them.
- **Country risk factors** - Conditions in a particular country or production cluster, or within the industry within a particular country, which may make the above sector risks more likely. These generally include governance, socio-economic and industry factors.

Some kinds of risk, such as business model risk, are general risk factors that could make many parts of your value chain more vulnerable to the risk of actual or potential environmental harm.

For example, sourcing through an intermediary may decrease the amount of information you can access and influence you have upon the sites producing your products. This could make the likelihood of harms within your value chain higher than if you had full visibility of your supply chain and worked directly with suppliers to address their impacts.

Others, such as product, country (geographical) or process specific risks, are usually linked to specific parts of the value chain. In the next few pages we will explain each of these risk factors in more detail.

Including opportunity within the assessment

A risk can have a negative effect but can also a positive effect. There are two types of opportunity a company could explore; the first type are the **direct opportunities coming from risk mitigation activities**. These can more easily be understood as benefits of action. The second kind of opportunity from environmental activities are ones that **open up new avenues of profit or influence** for a company.

1. Typical benefits for a company from environmental risk mitigation activities might include:

- Cost reduction from activities such as energy efficiency, resource reduction
- Efficiency gains from analysis and improvement of processes within the value chain
- Reduced business risk from environmental vulnerabilities within the value chain, such as drought, commodity price fluctuation, or supplier operational challenges
- Reputational benefits with staff, government, consumer and NGO audiences

2. Some potential opportunities for a company from environmental activities include:

- New products or customer offers with more sustainable credentials

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- New business models build around low environmental risk practices
- New resale opportunities for pre and post-consumer waste including production waste, operational waste and used products

There are a range of different potential environmental harms to consider within a risk assessment, including:

- Animal welfare
- Biodiversity, Land Use, Habitat Loss
- Deforestation
- Energy, Fuel Use or Fossil Fuel Depletion
- Greenhouse Gas (GHG) Emissions
- Air Emissions. Air Pollution; non GHG
- Solid Waste
- Hazardous Waste
- Chemical Hazards
- Water Use. Water Scarcity
- Wastewater, Water Pollution, Eutrophication

[For a more detailed explanation of these different environmental harms/impacts please review the document “Overview – Environmental Risks & Impacts” on Howtohigg.org](#)

What kind of risk(s) is my company responsible for?

According to the OECD, there are different ways in which a company can be responsible for risks within its value chain; **cause**, **contribute** and **directly linked**. When carrying out your risk assessment, you will need to analyse whether your company has caused, contributed to, or is directly linked to different risks that you identify within your value chain. The checklist below should help you understand what kind of responsibility you have, which will in turn help identify potential remediation actions.

Cause An enterprise “causes” an adverse impact if there is causality between the operations, products or services of the enterprise and the adverse impact.

- Is an action of the enterprise directly responsible for an adverse impact?
- Is the enterprise’s failure to act directly responsible for an adverse impact?

Contribute An enterprise “contributes to” an impact if the actions of the enterprise cause, facilitate or incentivise another entity to cause an adverse impact. Contribution must be substantial.

- “But for” the action or omission of the enterprise, would the entity have caused the harm?
- Has an action (or omission) of the enterprise enabled, made it possible or easier for the supplier to cause an adverse impact?
- Has the action (or omission) of the enterprise encouraged or motivated the enterprise to cause an adverse impact?
- If yes to any of the above, is there a reasonable causal link between the action of the enterprise and the action taken resulting in the adverse impact (e.g. by the supplier)?

Directly linked Linkage is defined by the relationship between the harm and the company’s products, services or operations through another company (i.e. business relationship). **Directly linked** is not defined by “direct sourcing”.

- Is there a harm in the enterprise’s supply chain that the enterprise itself did not cause or contribute to?

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Source: OECD Due Diligence Guidance for apparel and footwear companies

How do I carry out a risk analysis?

Risk analysis is fundamentally about looking at each section of your value chain and each type of risk in turn and trying to understand what type and scale of harms may be present - and whether your company is responsible for them in some way.

The scale of harm for each category and type of risk should be determined by the 3rd party data sources you use. For example, if you are looking at biodiversity risk and using a tool like the [UN Biodiversity Lab](#), the scale of risk used to show risk levels for each dataset should be the one you use in your analysis. Most tools should have information about how risk levels are calculated and how datasets are normalised. Each section of this document is designed to support your analysis of different kinds of risks, including

For each of the types of risk factor (e.g. business model risk, process risk) you will need to understand the likelihood and intensity of potential risks, what kind of risks are likely, where in the value chain they are likely, and which harms they relate to (e.g. water use, biodiversity loss, energy use). Checklists are embedded within this document to help you work through the steps of this process, and the resource “Overview – Environmental Risks & Impacts” can also support your analysis

Within each category of risk, you may use different data sources. For example if you are looking at water risk, you might use both the [Water Risk Filter](#) and the [WRI Aqueduct tool](#) which will have slightly different scales and types of data. In that instance, you can either a) take an average across the risk level of the data types or b) look at the highest risk and take a precautionary approach to reflect that as the highest risk.

For detailed analysis of different types of risk across different parts of the value chain, it will be important to identify a member of staff who can carry out the kind of analysis required to make ‘judgement calls’ on risk levels within the value chain. This may be someone with a background in impact measurement, risk analysis or supply chain evaluation. If you do not have a staff member able to undertake this kind of analysis, you can also identify 3rd party organisations or experts that can support you directly in your risk analysis, or can form a review group for your risk analysis. Details of relevant organisations are listed in the following sections.

How do I handle uncertainty?

If you have gaps in the data needed for a risk assessment, it is usually prudent to assume that the highest relevant level of risk could be true.

For example, if you are sourcing a cellulosic fibre but have no information about the production processes or original pulp sources and forest of origin, it is a good idea to ‘default’ your assessment of the risk from that source to the highest level available for that material. In the case of cellulosic fibres, this would be for example to note that illegal or high-value forest sources are potentially present in the cellulosic value chain, and that therefore there is a likelihood that this is a risk for your company in absence of further information.

Similarly, if you are sourcing through an agent or have extensive value chain sub-contracting, and you are not able to gather data on the environmental impacts or management of sites within your value chain, it is a good idea to assume that these sites **may** have the highest level of risk relevant to the region or processes being carried out.

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How do I bring together risk data into a whole risk picture?

Once you have carried out an assessment on each element of your value chain and each type of potential environmental risk, you will need to bring the data together into some kind of results framework.

Any gaps in your data can be shown either as a) a potentially high risk due to the lack of information or b) the highest reasonable risk level relevant for similar types of product/location/business function. For example, cotton with an unknown country of origin could be treated as a potentially high risk across all the relevant risk areas for cotton, OR could take the risk levels of the highest risk cotton sourcing country.

One of the easiest first steps in collating risk analysis results is to collect them per material, process and geographic location - although a company with high numbers of geographies/materials and processes may want to prioritise by either a) volumes or numbers of sites within regions or b) volume/scale of specific materials or processes.

This example below for cotton sourced from India shows how you can focus on factors that relate to the likely harms from cotton production, cross-referenced with the conditions in the country including governance framework, norms and practices, impact factors (such as GHG impacts from energy mix) and the vulnerability of the landscape to impacts.

High risk example:

Cotton in India	Impacts likely?	Governance framework effectiveness risk	Geographical norms risk	Impact factor risks	Landscape vulnerability?	Conclusion
Air pollution	Y	High	High		High	High
Animal Welfare						
Biodiversity impacts, protected areas and protected species	Y	Medium	Medium		High	High
Chemical impacts	Y	High	High		High	High
Deforestation						
Energy	Y	Medium	Medium	High	High	High
GHG	Y	Medium	High	High	High	High
Hazardous waste						
Land conversion and land use	Y	Medium	Low		Low	Low
Marine impacts	Y	Medium	Medium		High	Medium
Soil health	Y	Medium	High		High	High
Waste management	Y	High	Medium		Medium	Medium
Water quality and wastewater discharge	Y	High	High		High	High
Water use or extraction	Y	High	High		High	High

If this exercise is carried out for each material and production type or location, overall assessments can then be made for your whole value chain.

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You could make this overall assessment by:

- Giving an overall 'risk score' for each product, material, process or sourcing location and showing these in a value chain diagram or risk matrix, based on the presence of at least one important high environmental risk OR an average of risks for each item
- Exploring different types of environmental risk across the value chain, for example exploring the likelihood and intensity of biodiversity harm across all stages of production, operations and sales/end of life
- Creating a matrix of 'hot button' risks that are particularly prevalent at each stage of the value chain – for example land use change and deforestation might be key in raw materials production whilst water quality impacts might be the highest risk for wet processing factories
- Analysing the highest types of environmental risks within your whole value chain based on likelihood and intensity of harm, and using this to prioritise key environmental risks to prioritise in your sustainability strategy and planning

Carrying out this type of analysis can be complex and may require value judgements by staff members to bring together and evaluate different types of risk. Conducting a successful risk assessment can also require you to consider your existing company priorities, strategy, positioning, overall business model and sourcing model risk, as well as the degree of responsibility you bear and influence you can have on different types of risk. Any company conducting an environmental risk assessment will face challenges and gaps, and this is a normal part of the process.

For this reason, it may be sensible to consult with 3rd parties or experts - either on a paid or pro-bono basis - to evaluate the process you have gone through in creating your overall assessment, and to identify any gaps, challenges or assumptions that might be compromising your approach.

2b. Business and sourcing model risk

The structure and dynamics of your business model and value chain can have implications for the degree of risk your company faces. Some models of operation can make it harder to ensure that a company has visibility and verification of good standards within their value chain, it can also make it harder to leverage change with supply chain actors, or can create pressures on suppliers that lead to increased likelihood of actual or potential environmental harm.

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Questions to answer:

Question	Yes	No
Do you have a high number of different suppliers and products from across high number of countries?	1	0
Do you have a highly variable production cycle requiring short term contracts with suppliers, sometimes lacking sufficient time for a full supplier assessment?	1	0
Do you purchase a small percentage of the total production volume of any given supplier, leading to low influence on individual sites?	1	0
Do your products have high margin pressure and short lead times?	1	0
Do you carry out indirect sourcing or production through an agent or other 3rd party, or through license agreements?	1	0
Do you permit supplier sub-contracting?	1	0
Do you have mechanisms in place to prevent unauthorised sub-contracting?	0	1
Do you have best practice or above-legal supplier standards and requirements built into your business contracts or code of conduct?	0	1
Are there mechanisms in place to apply best practices beyond tier 1 suppliers, through direct engagement or indirectly through tier 1 suppliers?	0	1
Do you have clear processes for verification and enforcement of your supplier standards?	0	1

Answer these questions and add up the total number of scores from your yes or no answers. **If you have a total of 4 or more**, your company is probably operating a higher-risk business model – with the risks increasing as the number gets higher.

This should inform your **general understanding** of how you may be exposed to risk, and how likely you are to have risks within your value chain. But you will also need to look across the value chain at specific products, processes and locations to understand where your risk hotspots may lie at a more granular level, as covered in the following sections.

2b. Product (process and material) risk

Specific materials or processes within a company's value chain will be more or less likely to cause harm in impact areas such as climate, water etc. Companies should aim to first understand the most relevant materials and processes within their specific value chain, and identify the most likely and severe harms related to their main apparel, footwear and textiles products or processes.

The tables below are an indicative example of how different harms might relate to each part of your raw materials or process value chain.

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<i>Pre-spin materials processes</i>	Cotton	Cellulosics including viscose	Leather	Polyester	Other synthetics	Wool	Flax, hemp and linen	Silk
Air pollution	Y							
Animal Welfare			Y			Y		Y
Biodiversity impacts, protected areas and protected species	Y		Y	Y	Y	Y		
Chemical impacts	Y	Y	Y	Y	Y			
Deforestation		Y	Y					
Energy	Y	Y		Y	Y			
GHG	Y	Y	Y	Y	Y	Y		
Hazardous waste		Y	Y	Y	Y			
Land conversion and land use	Y	Y	Y			Y	Y	
Marine impacts	Y	Y	Y	Y	Y	Y		
Soil health	Y						Y	
Waste management	Y	Y	Y	Y	Y	Y	Y	Y
Water quality and wastewater discharge	Y	Y	Y	Y	Y	Y		
Water use or extraction	Y	Y	Y					

<i>Post-spin value chain</i>	CMT	Wet processes	Tanning	Weaving	Packaging	Logistics	Offices, DCs and retail	Product use phase	Product end of life
Air pollution		Y	Y						
Animal Welfare									
Biodiversity impacts, protected areas and protected species		Y	Y						
Chemical impacts		Y	Y		Y			Y	Y
Deforestation					Y				
Energy	Y	Y	Y	Y	Y	Y	Y	Y	
GHG	Y	Y	Y	Y	Y	Y	Y	Y	Y
Hazardous waste		Y	Y						
Land conversion and land use									Y
Marine impacts		Y	Y		Y	Y		Y	Y
Soil health									
Waste management	Y	Y	Y		Y		Y		Y
Water quality and wastewater discharge		Y	Y					Y	
Water use or extraction		Y	Y					Y	

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Where do I find information on the scale and likelihood of harm for each production stage?

- Using the SAC's Higg Materials Sustainability Index (MSI) to understand the likely global environmental impacts of a particular material or process compared to other materials and processes.
- Using the SAC's Higg Facility Environmental Module (FEM) country average scores for specific processes e.g. scores for dyeing, laundry, cut and sew factories. This feature is available on Higg.org for SAC members and Higg Co users.
- Using data collected directly from suppliers carrying out different processes, for example through the Higg Facility Environmental Module (FEM) scores of your suppliers. You can look either at the scores of each supplier, or at the average for your suppliers carrying out specific processes or in specific countries.
- Using Life Cycle Assessment (LCA) data or similar industry impact data to show relative likelihood of harm for specific materials (although some LCA datasets can be difficult to compare due to differences in scope, methodology or normalisation). Well known industry datasets include the Quantis WALDB and the Thinkstep GaBi.

Questions to answer

At the end of the initial risk screening phase your company should be able to answer:

- For each production process or material/product type, are there specific risks that can be reasonably excluded? For example, chemical or water use risks in a cut and sew factory could be low based on their Higg Score.
- For each process or material/product type, are there particular risks that are more acute? For example, chemical risks from dyeing or leather tanneries could be high based on their Higg Score.

2c. Country risk

Country or geographical risk analysis is another important way to understanding many elements of your value chain, in particular to understand both the likelihood of a particular harm, and the potential severity of harm in that location.

Understanding geographical risk is especially important when looking at supplier risk and raw materials risk, but can be relevant for all parts of the value chain.

For some types of risk, it will be sufficient to analyse country level risk at national level. For other types of risk, it is recommended that local or sub-national geographical assessment is carried out where data is sufficiently granular. For example, water or biodiversity risk are very localised issues, and so using a detailed geographical risk tool such as the [WRI Aqueduct tool](#) can show the degree of water risk in the town, village or even square mile that a site is operating in. If you do not have data on the specific location for your assessed site – for example you are assessing cotton and only know it is from India- it may be sufficient to look at the national average risk for India.

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Geographical factors that increase or decrease the *likelihood of harm*

Some geographical factors make it more or less likely that harm will be occurring for any material or process. These factors are 'systemic' influences on the relevant country or region. For example, if chemical use is not well regulated, or farmers are not given access to training or technical information, this can increase the likelihood of harm from chemical use for a particular material source.

Environmental governance – some questions to answer when evaluating risk:

- How effective is the rule of law within that country or region, in terms of corruption and overall functioning of government?
- How strong are environmental policies and standards in each relevant country for relevant environmental impacts?
- How well are environmental policies and regulations enforced, in terms of administration of relevant permits and licences, monitoring of impacts/practices, effective mechanisms for prosecuting or applying penalties, likelihood that penalties deter violators?
- How well government institutions are functioning, including clarity of departmental mandates and responsibilities, clarity of decision-making processes, having suitable powers to make regulations effective, and inclusivity or decentralisation of decision-making processes?
- How much public infrastructure upkeep or investment is being made in the relevant area, for example water, energy or waste infrastructure?

Public data sources for initial screening on environmental governance include:

- [Corruption Perceptions Index](#)
- [Water governance assessment for SDG 6.5](#)
- [World Bank Governance Indicators](#)

Geographical norms and standards – some questions to answer when evaluating risk:

- Are factories, producers or farms in that country or region typically adhering to environmental regulations?
- Do factories, producers or farms in that country or region typically have access to:
 - Advanced technology or innovations
 - Information and technical support, specifically trained staff or 3rd parties
 - Financial opportunities including loans and grants for improvements?
- Do managers, owners or farmers in that country or region have awareness around environmental issues, and are they likely to prioritise environmental concerns within their day to day operations?
- How well does the country or region perform on key environmental parameters such as climate performance, animal protection?

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Public data sources for initial screening of local sensitivity to harm include:

[Climate performance index](#)

[MVO Risk Checker](#)

[World Animal Protection's Animal Protection Index](#)

[IPE's environmental compliance database](#)

Also explore:

- Feedback from suppliers in the region
- Feedback from NGOs in the region
- Online reports on legal compliance

There will likely be data gaps for these types of questions, so don't worry if you are not able to answer all the questions at once!

Geographical factors that increase or decrease the *intensity* of potential harm

There are two main kinds of geographically specific factors that increase the intensity of potential harm.

1. One factor is around how certain **locally-specific elements**, such as the grid energy mix of a country or region, can **determine the actual GHG impacts** from the same amount of energy use.

To calculate GHG emissions from grid energy use data, you can use grid energy conversion factors created by the IPCC which [can be found here](#). There are also several tools available to help companies carry out this conversion process on their operations and value chain, including [this one from Quantis and the GHG protocol](#) which can help estimate Scope 1, 2 and 3 emissions using energy and other data points.

2. The second factor to explore through geographical risk analysis is the **geographical sensitivity to harm** within a specific region.

For example, harms like pollution, water use or land conversion harms from specific processes are likely to be less intensive in a context where these harms are not generally an issue, since the ecosystem is more able to absorb the harm without compromising its functioning. But in contexts where the situation is already vulnerable, additional harms can have a more intensive effect.

Similarly, the sensitivity to harm can also be linked to the intrinsic value or character of the region – for example in terms of important protected areas, ancient forests or areas of rich biodiversity. Harms in regions with these types of ecosystems are usually more intense than those in areas which do not have such high ecosystem value.

Geographical sensitivity – questions to answer:

- What types of harm intensity are determined by impact factors, such as GHG emissions? What does this mean for the risks around a specific material or process from a specific country within my value chain?
- What types of geographically determined sensitivity are related to the existing impacts in a region? Elements to consider include:
 - Ground and surface water availability and needs of other users including the environment
 - Water quality conditions for ground and surface water sources, including levels of toxic chemicals
 - Deforestation levels and land conversion prevalence including conversion of grasslands and wetlands
 - Degree of biodiversity degradation
 - Existing soil health conditions

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- What types of geographically determined sensitivity are related to the presence of valuable ecosystems that could be damaged by harms? Elements to consider include:
 - Protected areas and protected/endangered species
 - Biodiversity rich landscapes
 - Ancient or High Conservation Value forests
 - Human settlements

Public data sources for initial screening of local sensitivity to harm:

- [The Environmental Performance index](#) for overall environmental risks and performance per country
- [Water Risk Filter](#) and [WRI Aqueduct tool](#) for water-specific contextual issues
- [Forestwatch map](#) for deforestation risks
- [UN Biodiversity lab map](#) for analysis of protected areas, biodiversity and species risks
- [Berkley Earth](#) for air quality data

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3. When and how to dive deeper into specific identified risks

Once your company has carried out the initial screening of risks, there are some options available to support a deeper dive analysis of risks where needed.

A deep dive analysis of risk should be carried out for contexts where:

- Existing data held by the company is not sufficient to carry out a conclusive high-level risk analysis, and further data is required
- A material or process type has high risk of at least one type of harm and represents a significant proportion of a company's value chain volumes (e.g. polyester is high risk and is the primary material used by a company)
- A country has high risk of at least one type of harm and is important within the value chain of the company (e.g. representing a significant portion of your production volume)
- A specific environmental risk is identified as being of major concern across the value chain of a company, or is prioritised for action by the company or external stakeholders

Types of deep dive analysis possible:

- Detailed stakeholder consultation through interviews, workshops, review of documents
- In-depth data collection or verification from value chain and operational sites
- In-depth analysis of the impacts from specific materials or processes
- In-depth analysis of the geographical context and implications for risks
- Detailed analysis of the risk mitigation potential of existing policies, solutions or practices, e.g. certified materials, renewable energy power purchase agreements for stores
- Engagement with expert 3rd party organisations that can carry out in-depth analysis for particular materials, regions or environmental risk types

3a. Stakeholder consultation

Stakeholder consultation can happen either at global level or within specific regions. It is useful to understand what the expectations and perceptions of the company's harm are, as well as identify any risks that may not be 'seen' from the internal perspective.

Consultation at national or local level can be especially effective, although can be more challenging for individual companies to carry out and can be done through multi-stakeholder initiatives such as the Sustainable Apparel Coalition, Apparel Impact Institute, or a national or local level programme in production regions,

Types of stakeholder to consult include:

- Suppliers
- Customers
- Internal staff
- NGOs, technical organisations and pressure groups
- Regulators and policymakers (if feasible)
- Local communities, farmers or other industries in higher risk regions

Types of stakeholder engagement:

- Surveys
- In-person meetings e.g. [town hall meetings](#)
- Roundtables with key stakeholders and expert groups

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- Training days for suppliers and staff where consultation is facilitated
- Short 30 minutes 1:1 interviews, particularly with individuals representing civil society or community groups
- Official meetings e.g. with policymakers and regulators
- Review of risk analysis documents either through an open call for feedback or through a targeted expert group
- Social media Q&A sessions or focus groups for customers

Key questions to answer:

- Where do the environmental risks lie for our company, based on stakeholder evidence or observations?
- Do stakeholders support the outcomes from your initial risk assessment? Are any changes needed?
- Have stakeholders flagged any potential harms that you have not picked up in your initial risk assessment? What are these and how likely or potentially intense are they?
- Do stakeholders identify any links or possible trade-offs between potential harms? For example, if wastewater treatment is improved, then energy and use would be increased?
- What do stakeholders suggest in terms of potential solutions? What do they think of the current mitigation options being carried out by the company?

3b. In-depth data collection or verification from value chain and operational sites

If your company has gaps in data availability across the value chain or operation sites, this can be addressed by carrying out the following activities:

- **Direct data collection from supply chain sites**, or leveraging a tool like the Higg FEM to gather data across your value chain
- **Direct verification of supplier environmental performance data**, or verification through mechanisms such as the Higg FEM verification programme
 - If verification or audits are carried out, they should be conducted by qualified and approved verifiers.
 - Qualified in this context means that verifiers should have a) qualified by the organization of the standard e.g. SAC b) experience and knowledge of the relevant criteria or harms c) knowledge around testing processes, verification models and international and national standards related to the potential harm d) knowledge of the local legislation and sensitivity to the local risks and norms where verification is taking place and e) should have the relevant cultural knowledge and language skills to engage key local stakeholders effectively.
- **Further mapping of value chain actors and risks** – for example through:
 - Collaboration with sourcing agents to engage supply chain partners and gather site performance data
 - Direct engagement with tier 1 (cut and sew) or tier 2 (fabric mills and/or wet processing mills) suppliers to map their sub-suppliers to the extent that major risks are likely to be in scope
 - Leveraging industry mechanisms like the Higg FEM to ensure tier 2 suppliers and beyond are brought into reporting mechanisms
 - Active mapping of supplier locations through 3rd party traceability mechanisms such as through the Open Apparel Registry.

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- **Improved measurement, monitoring or data collection of operational risks** – for example through gathering of data from utility bills, in-store tracking or meter readings to reflect energy use and sources, GHG emissions, water use and discharge, waste and resource use for stores, DCs or offices
- **Working with third-party logistics (3PL) providers** to support improved tracking of logistics modes and volumes from tier 1 to final customer
- **Direct research and analysis into consumer use phase or end of life risks** within specific markets – through more refined local data on behaviours, customer surveys or through the SAC's Higg Performance Communications workstream.

If a company has gaps in knowledge of risks for specific processes or products, seeking out more refined analysis of the relative likelihood of harm from specific materials through:

- Engaging with certification schemes, local producers, NGOs or data providers to access refined data on materials specific risks
- Gathering the most granular and relevant data possible, aiming to ensure that scopes and methodologies are consistent, and that key production geographies are disaggregated as much as possible

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3c. In-depth analysis of the geographical context and implications for risks

Where data is available to support a sub-national analysis – for example where specific factory or field locations are known through supply chain mapping - a company can carry out deep dive analysis of relevant risks, including:

- **Sub-national datasets on environmental governance** (e.g. provincial water regulations) or national/sub-national norms (e.g. norms of environmental practice for relevant geographies, supported by collective or company specific data gathering where relevant)
- **Sub-national analysis of geographically determined sensitivity:**
 - Ground and surface water availability and needs of other users including the environment
 - Water quality conditions for ground and surface water sources, including levels of toxic chemicals
 - Deforestation levels and land conversion prevalence including conversion of grasslands and wetlands
 - Degree of biodiversity degradation
 - Existing soil health conditions
- **Sub-national analysis related to the presence of valuable ecosystems that could be damaged:**
 - Protected areas and protected/endangered species
 - Biodiversity rich landscapes
 - Ancient or High Conservation Value forests

This in-depth analysis can be carried out using the data sources from your initial risk screening, by conducting specific stakeholder outreach, or by conducting regionally specific research in collaboration with 3rd parties or other companies.

3d. Detailed analysis of the risk mitigation potential of existing policies, solutions or practices

For each of the potentially high-risk materials, processes or geographies, there are steps to take that will mitigate or protect against some of the risk of harm. Many companies may already have taken some of these steps, and the risk mitigation potential of their actions should be included with a risk assessment in order to establish where sufficient care has been taken or where a company can demonstrate that the measures taken were effective vs parts of the value chain where critical information gaps exists and action is still needed.

Assessing risk mitigation benefits from supply chain best practices, questions to ask:

- Has the mitigation activity demonstrated measurable reduction in the likelihood or intensity of important harms within the relevant region? (e.g. reducing water use in regions facing high water stress, rather than in regions with low water stress)
- To what degree has the risk been addressed –has it been reduced slightly, significantly reduced, or totally eliminated?
- Are there any tensions between reduction in this risk and potential increases in risk on other environmental or social harms? If so, is the trade-offs justified within your risk analysis?
- Is it feasible to eliminate the risk, or is there a limit to the risk mitigation available from on-site action (potentially requiring activity on country level policy, material level, etc?)
- Has the mitigation activity been verified by or implemented in collaboration with a credible 3rd party?
- Is the mitigation activity a temporary or long-term way of addressing risks?

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- Do relevant stakeholders in the region agree that the mitigation activities have been of benefit in addressing the risk?

Assessing risk mitigation benefits from sourcing preferred or certified materials, questions to ask:

- Is the preferred or certified material demonstrably less likely to cause harm, or likely to cause less harm? Sources to look at include:
 - [Textile Exchange preferred fibre list](#)
 - [WWF Certification Assessment Tool](#)
 - Life cycle assessment data benchmarking accurately against the 'baseline' material. Sources of LCA data include the SAC MSI, [Quantis WALDB](#) and the [Thinkstep GaBi](#).
- To what degree has the risk been addressed –has it been reduced slightly, significantly reduced, or totally eliminated? How much of your sources and from which locations need to be sourced from preferred or certified materials to address risks?
- Are there any tensions between reduction in this risk and potential increases in risk on other environmental or social harms? If so, is the trade-offs justified within your risk analysis?
- Is it feasible to eliminate the risk, or is there a limit to the risk mitigation available from preferred fibres (potentially requiring activity at country policy level etc)
- Does the preferred or certified source have a strong verification mechanism or chain of custody in place? If so, can you identify the source on the relevant chain of custody or verification website e.g. Forest Stewardship Council database, Better Cotton Initiative database?

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Assessing risk mitigation benefits from systemic activities within a specific geography, questions to ask:

- What types of activities have you undertaken to address systemic challenges in relevant geographies? Options could include:
 - Engagement on local or national governance and policy to encourage more ambitious regulation or planning
 - Impact reduction activities beyond your direct supply chain, including conservation or restoration programmes
 - Outreach and collaboration with non-value chain actors, such as other companies, communities or farming groups to address local impacts
- Are these activities supported, convened and verified with a credible convener or 3rd party? Do they have the right knowledge, experience and local connections to make the process effective?
- Can the risk mitigation benefits of these activities be quantified? Are they sufficient to address systemic local or national risks? What else might be required?
- Are there any tensions between reduction in this risk and potential increases in risk on other environmental or social harms? If so, is the trade-offs justified within your risk analysis?
- Are these activities long or short term? If short term, what will happen to risk levels once activities cease?
- Do relevant stakeholders in the region agree that the mitigation activities have been of benefit in addressing the risk?

Assessing risk mitigation benefits from activities in stores, offices, DCs and logistics questions to ask:

- Has the mitigation activity demonstrated measurable reduction in the likelihood or intensity of important harms within operations? (e.g. reducing water use in regions facing high water stress, rather than in regions with low water stress)
- Are there any tensions between reduction in this risk and potential increases in risk on other environmental or social harms? If so, is the trade-offs justified within your risk analysis?
- To what degree has the risk been addressed –has it been reduced slightly, significantly reduced, or totally eliminated?
- Is it feasible to eliminate the risk, or is there a limit to the risk mitigation available from on-site action (potentially requiring activity on country level policy, material level, etc?)
- Has the mitigation activity been verified by or implemented in collaboration with a credible 3rd party?
- Is the mitigation activity a temporary or long-term way of addressing risks?
- Do relevant stakeholders agree that the mitigation activities have been of benefit in addressing the risk?

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Assessing risk mitigation benefits from changes in business model or processes, questions to ask:

- Have these changes addressed any of the key business model risks in your initial screening?
- Do the changes affect your whole business, or just a portion of it?
- Have you assessed the overall likelihood and potential intensity of risks for your new model or process, and demonstrated that it is lower risk than your previous model in relation to the most material risks in your business? What should you benchmark against – your previous model/process, similar new models/processes, the most innovative/low risk model/practice in the sector?
- Are there any tensions between reduction in risk from this new model/process, and potential increases in risk on other environmental or social harms? If so, are the trade-offs justified within your risk analysis?
- Do relevant 3rd stakeholders (such as NGOs, regulators, customers, investors) agree that the new model is of benefit in addressing the risk?