BUSINESS MODEL RED FLAGS UPDATE:

BRINGING A CLIMATE LENS TO BUSINESS MODEL RISKS TO PEOPLE

SUMMARY

*With support from the Generation Foundation, **Shift** is updating and expanding its Business Model Red Flags tool. As part of this effort, **Shift** has partnered with **BSR**, with the support of the Laudes Foundation, to incorporate a climate lens into relevant parts of the tool.*

This climate lens responds to growing recognition that climate change, and action to address it, can intensify and extend the range of human rights risks — including those embedded in business models themselves, if left unaddressed. Using business models as an entry point, companies and financial institutions can better understand where climate and human rights challenges intersect. This will enable them to engage with their business partners on human rights within climate strategies and transition planning, as well as to build more holistic and robust approaches to value creation. This subset of the overarching update and expansion includes 14 climate-linked Red Flags — 13 updated and one new — each illustrated with examples of corporate action and material consequences that have arisen where a business has failed to mitigate the risks inherent in its business model.

***Shift**, as part of the broader update to the Business Model Red Flags tool, will be publishing additional thematic lenses in the months ahead, including on themes such as inequality and AI. The broader update and these thematic deep dives will help companies, investors and regulators to integrate business model risks more systematically into corporate strategy and decision-making.*

INTRODUCTION

As climate change - as well as the global imperative to address it - intensifies, many businesses have made significant strides in identifying climate-related risks and opportunities and are transitioning their business strategies accordingly. When done well, these efforts can support a sustainable future with good and decent jobs, affordable energy, cleaner air and water, improved public health, and a thriving economy.

Yet the human dimension of the transition – referred to as the "just transition" – remains underdeveloped. Where it does exist, it is usually limited to isolated, operational-level interventions.

Even with increased regulatory attention to the role of business models in driving climate change, few efforts, if any, have focused on

DEFINING JUST TRANSITION

The concept of a just transition originated in 1980s North American labor and environmental movements. Enshrined in the ILO Guidelines for a Just Transition and the Paris Agreement, it has become a key concept to ensure climate action supports workers and communities without leaving anyone behind in the transition to a net-zero economy. It is both an outcome—a net-zero, climate-resilient economy with shared benefits—and a process, requiring meaningful engagement with affected groups.

A just transition is grounded in human rights. In 2024, the UN Human Rights Council underscored the importance of a just transition for ambitious climate mitigation and adaptation, highlighting the need for companies to respect human rights in line with UN Guiding Principles on Business and Human Rights in the climate context.

the way corporate business models interact with the social dimensions of climate change and corresponding decarbonization and adaptation efforts. Ignoring or inadequately managing these interactions can lead to significant material risks for business.

The urgent and critical transition away from carbon intensive activities has also brought negative impacts on people. These have not always been appropriately accounted for and managed. They include workforce displacements and reduced affordability of goods and services.

In addition, sourcing critical minerals and deploying low carbon energy solutions, without consideration of impacts on people, have put the rights of workers and communities at risk across value chains.

IMPACTS ARE ALREADY BEING FELT

According to the World Meteorological Organization, 2024 was the hottest year on record. This warming is increasing physical climate change impacts with severe and pervasive risks and harm for people and their livelihoods. Inaction also threatens businesses through operational, process and other business disruptions, as well as regulatory risks and shrinking access to capital. If we maintain the current trajectory, one estimate suggests that large companies will face $1.2 trillion yearly in physical risk costs in the 2050s.

As a result, we are seeing workforce resistance, public protests, and stakeholder activism which risk undermining or even derailing critical low carbon transition efforts.

At the same time, the physical impacts of climate change – such as extreme heat, floods, droughts and wildfires – are already being felt around the world, with devastating impacts on people, particularly the most vulnerable.

Many of these risks can be traced directly back to how companies design and execute on their business models. For businesses whose existing or evolving business models carry inherent climate-related risks to people, failing to address these features in climate strategies and transition planning risks overlooking or underestimating potential impacts on workers, communities, and consumers.

Such oversights can present material financial risks to the business and significantly undermine climate action, jeopardizing the transition to a low carbon and climate-resilient future.

MAKING THE BUSINESS MODEL CONNECTION

The low carbon transition and the changing climate are interacting with corporate business models, expanding the risks faced by workers, communities, consumers, and businesses themselves.

For example, the risks to people posed by business models rooted in land use in locations where ownership is contested are triggering stakeholder responses that risk derailing decarbonization objectives. This is evident when renewable energy companies face opposition to new projects from local communities or Indigenous Peoples who claim the land on which such projects are located. Similarly, supply chain disruptions can result when business models rely on commodities with unclear provenance, such as in jurisdictions instituting forced labor-related import bans on key low carbon technology components.

Moreover, physical climate impacts are expanding the range of risks to people inherent in certain business models, with knock-on implications for business. For example, workers in the supply chains of companies reliant on a lowest cost goods business model, such as a "fast fashion" retailer, are already grappling with expanding health and safety risks linked to extreme heat and flooding in key apparel manufacturing hubs, putting productivity at risk. Relatedly, gig workers engaged by platform companies reliant on informal labor relationships are exposed to extreme heat and flooding in certain geographies, without adequate health and safety protections, which not only puts the workers at risk, but increases the risk of service disruption for the company.

Investors and lenders have unique leverage over companies across sectors and systemic influence over the transition to a low carbon and climate-resilient economy. Investing in a people-centered transition depends on minimizing the systemic risks to people and portfolios posed by prevalent, high-risk business models. To achieve this, investors and lenders need to understand how business model features can interact with the climate transition, physical climate impacts, and significant risks to human rights. Applying a business model lens can help them identify where these intersections are most acute for prospective or current investees and clients across sectors. It can also support root cause analysis of controversies, inform engagement with companies on human rights in climate transition planning, and encourage a more holistic and robust approach to value creation.

Companies are much better positioned to respond to a dynamic regulatory environment when using this business model lens. There is a global evolution in the regulations and standards requiring companies and financial institutions across different regions to address and account for their social and climate risks and impacts, some of which look explicitly at the ways in which business models and strategy influence these risks.

EVOLVING REGULATORY/STANDARDS LANDSCAPE

Regulatory expectations on companies are continuing to expand worldwide. Key trends include:

- Modern slavery-related legislation in Australia, Canada, the UK and the US;
- Climate- and/or human-rights-related disclosure requirements in Chile, Japan and India;
- Sustainability taxonomies that incorporate climate objectives with minimum human rights safeguards in Mexico and the European Union; and
- Broader environmental and social due diligence legislative developments in the European Union, Norway and Thailand.

The Global Reporting Initiative's 2025 Climate Standard incorporates specific disclosures related to the human dimensions of transition plans and adaptation plans, including cross-sectoral just transition metrics. Disclosure requirements regarding business contributions to, as well as risks from, climate change are gaining extensive reach through the disclosure framework of the Taskforce on Climate-related Financial Disclosures (TCFD) and its incorporation into the Climate Standard (IFRS S2) developed by the International Sustainability Standards Board (ISSB).

On business models and strategies specifically, the EU's Corporate Sustainability Due Diligence Directive (CSDDD) requires companies to make necessary modifications to their own business plan, overall strategies and operations, including purchasing practices, design and distribution practices.[1] It also requires companies to *"put into effect a transition plan for climate change mitigation which aims to ensure, through best efforts, that the business model and strategy of the company are compatible with the transition to a sustainable economy and with the limiting of global warming to 1.5 °C in line with the Paris Agreement".*[2] Further, there is an implicit expectation that corporate transition plans would be subject to human rights due diligence.[3] Meanwhile, under the draft revised European Sustainability Reporting Standards,[4] companies are asked to *"provide a high-level description of the interaction of the material impacts, risks and opportunities, with its business model, value chain, strategy and decision-making".*[5] Whilst continuing to evolve, these standards and regulatory developments underscore the increasing imperative of companies understanding the connections across business models, climate change and human rights, and taking appropriate action.

1 EU CSDDD: **Article 10 – Preventing potential adverse impacts** – 10.2 Companies shall be required to take the following appropriate measures, where relevant:...(d) make necessary modifications of, or improvements to, the company's own business plan, overall strategies and operations, including purchasing practices, design and distribution practices; **Article 11 – Bringing adverse impacts to an end** – 11.3 Companies shall be required to take the following appropriate measures, where relevant:...(e) make necessary modifications of, or improvements to, the company's own business plan, overall strategies and operations, including purchasing practices, design and distribution practices.

2 EU CSDDD, Article 22, para 1.

3 See also https://www.bsr.org/en/blog/csddd-a-de-facto-climate-due-diligence-law-that-safeguards-people and https://www.wearehumanlevel.com/content-hub/advancing-justice-how-the-eu-csddd-drives-a-just-transition

4 The European Sustainability Reporting Standards (ESRS) operationalize the reporting requirements of the EU's Corporate Sustainability Reporting Directive (CSRD), setting out detailed disclosures that companies must make on sustainability impacts, risks, and opportunities.

5 Draft ESRS 2 **SBM-3** para 22. The text specifies that this high-level description *"includes how material impacts originate from its strategy and business model, and how material risks and opportunities affect or may affect substantially its strategy and business model, as well as how the undertaking has addressed or plans to address them."*

A TOOL FOR ACTION: BUSINESS MODEL RED FLAGS – A CLIMATE LENS

First published in 2021, Shift's Business Model Red Flags support the identification of human rights risks inherent in features of business models – that is, elements of a company's value proposition, value chain and revenue model that give rise to greater risk of impacts on people.

The Red Flags have been used or referenced by a wide range of actors, including investors, lenders, companies, UN bodies, foundations, industry associations and civil society organisations. The tool contains examples of how each red flag manifests and how people – and the business – can be impacted as a result. Importantly, they contain examples of due diligence questions and mitigation measures, reflecting that these business models needn't necessarily be abandoned – but that risks need to be addressed, and important questions asked of and by the company's leadership.

To support urgently needed climate action, **Shift** in collaboration with **BSR** has updated the Business Model Red Flags to include a climate lens. This lens gives users practical insights into the nexus between business models, climate change and risks to business and people. Because climate change and the transition in response to it impact all aspects of the economy, thirteen of Shift's original business model red flags have been updated (see Annex). In addition, a new red flag has been added to address the inherent connection between business models reliant on significant greenhouse gas emissions, physical climate impacts and risks to people and livelihoods.

EXAMPLE ILLUSTRATING UPDATED CLIMATE-RELEVANT CONTENT

Red Flag 3: Construction or commencement of projects with timelines that do not allow sufficient time for consultation with groups affected by the projects.

- **Climate lens:** In response to the rapid scale-up of low carbon energy capacity, energy transition mineral mining and renewable energy projects are being "fast-tracked" by companies and governments, often by minimizing (or eliminating) consultation with affected local communities.
- **Risks to people:** Local communities' procedural rights (access to information, participation in decision-making, and access to justice/remedies) are being compromised. For Indigenous Peoples this includes free, prior and informed consent, which is a widely recognized principle under the UN Declaration on the Rights of Indigenous Peoples. At present, current estimates indicate that 54% of energy transition minerals are located on or near Indigenous Peoples' land.
- **Risks to business:** In 2023, an expedited approval was granted by the Panamanian authorities for a 20 year concession extension of the Cobre Panama copper mine to help satisfy global demand for copper (an essential transition mineral). The approval process precluded the opportunity for adequate community consultation, sparking country-wide protests. Shortly thereafter, Panama's Supreme Court ruled the expansion contract unconstitutional, leading to the mine's closure. First Quantum Minerals (the mine's owner) has stated that the inactive, non-producing mine is costing approximately $800 million and incurring monthly maintenance expenses ranging from $17 million to $18 million to manage the site during the closure period.
- **Due diligence lines of inquiry:**
  - Do we know which stakeholders we need to consult and how to structure the consultations to make them meaningful and accessible?
  - Do we know if groups that self-identify as Indigenous Peoples are impacted by the project and, if so, do we understand how that will impact project timelines?
  - Do we measure and/or have we accounted for the cost of conflict with local communities?

Business model risks can accumulate into systemic risks. For example, the impacts of individual companies that transition away from high-emissions activities but neglect worker impacts, that pursue aggressive tax practices that weaken social safety nets, or that source commodities without regard for farmer incomes in climate-vulnerable contexts can compound and cascade, deepening inequality within and across regions.

Understanding how business model risks interact with climate-related risks can help regulatory, financial, and corporate decision-makers address systemic risks impacting individual companies, as well as the broader economy.

HOW TO USE THIS UPDATE

The updated climate-related Red Flags retain the features of the other Business Model Red Flags. The flags are organized around three features of a business model: The Value Proposition, The Value Chain and the Cost Structure and Revenue Model. Each Red Flag is supported by a guidance document organized into four levels: As part of this update, users can explore, at each of the four levels, how the low carbon transition and the physical impacts of climate change interact with dominant or emerging business models. This includes an analysis of how people are at risk, examples of where these issues have manifested as financially material risks for business, due diligence lines of inquiry, examples of companies that have made efforts to mitigate or prevent these risks, and the inclusion of business model and climate-specific resources.

The red flags can be used to:

For investors and lenders

- build the business model analysis capacity of relationship managers/portfolio managers
- screen portfolios to identify high-risk portfolio segments/priority investees
- design and strengthen portfolio company engagement
- recognize whether risks to people are being hard-wired into company climate strategies and transition plans
- build more robust and resilient portfolios by recognizing and addressing the ways in which business model-related risks to people interact with climate-related risks
- inform double materiality assessments and sustainability reporting on relevant topics

HOW FINANCIAL INSTITUTIONS HAVE USED RED FLAGS

Investors and lenders have used the Red Flags as one of a suite of tools developed by Shift to drive better evaluation and engagement on human rights. For example, FIs have: incorporated the Red Flags into their social risk identification tools; screened their portfolios by mapping the Red Flags against industry classification codes; mapped the red flags and potential mitigation measures against commercially available data; leveraged the tool's due diligence lines of inquiry to design engagement strategies; and identified root causes of portfolio controversies and extrapolated those to proactively identify other red flag hot spots across the portfolio. See Examples of Investor and Lender Application of Red Flags here.

For companies

- foster integrated approaches to climate and human rights in the design and implementation of strategies and plans
- inform double materiality assessments and sustainability reporting on climate change and human rights topics
- identify opportunities for business model, product and service innovation
- support more resilient and strategic decision-making

For regulators, auditors, analysts and civil society organizations

- identify business model features that will predictably put people at risk, including by delaying the transition to a low carbon economy
- engage meaningfully with companies and investors on the interactions between climate change- and business model-related risks to people
- assess company efforts to address risks related to the interaction between business model features and climate action

A CLOSER LOOK: INVESTORS IN PRIVATE CAPITAL MARKETS

Understanding the interaction between business models, climate, and people is especially important for private equity (PE) and venture capital (VC) investors. Risk assessments for unlisted assets can be challenging due to limited data, while private capital investors also have unique leverage to shape and scale climate-friendly, rights-respecting business models early in a company's lifecycle, whether through VC funding of start-ups or PE investments in growth stage companies.

The climate lens on Shift's Business Model Red Flags tool offers practical, user-friendly insight and guidance to support these efforts. As part of BSR's People and Climate Action in Private Markets (PCAP) initiative, the updated Business Model Red Flags have been integrated into a suite of resources that enable private markets investors to:

- Identify and prioritize companies with high-risk business models;
- Assess the implications of potential business models for people and the climate; and
- Support portfolio companies in addressing business model impacts, risks, and opportunities in climate transition planning.

*With generous funding from the Generation Foundation, **Shift** has been working to update and expand its popular Business Model Red Flags tool. **Shift** will be releasing the updated Red Flags in thematic tranches, starting with this first set of 14 Red Flags that have a nexus with climate change. Forthcoming thematic tranches will address themes such as digitalisation and AI, inequality and conflict. Each tranche will explore the ways in which business model features interact with the theme to give rise to or intensify risks to workers and communities.*

*In addition, to help financial institutions address human rights with their clients and investees, including how human rights risks manifest in business model features, **Shift** regularly convenes and facilitates social sustainability clinics. In the months ahead, **Shift** will convene a series of thematically-driven clinics to provide space to: explore how risks linked to a certain issue may give rise to or intensify risks inherent in business models; apply practical tools and approaches to evaluate the human rights performance of clients and investees, and; learn directly from peers grappling with similar challenges. The first clinic in this thematic series will be focused on human rights and the climate transition.*

*With generous funding from Laudes Foundation, **BSR** has been working with investors, experts, civil society organizations, and peers to prepare tools and resources for private equity and venture capital to better assess, engage, and support companies on climate-related human rights risks and opportunities to advance a just transition. Over the course of 2025 and 2026, **BSR** will publish additional resources, including: guidance on embedding business model considerations into climate investment strategies; stewardship engagement guidance for specific sectors; and a portfolio-level assessment tool featuring business models and human rights and climate country risk indicators.*

ANNEX: UPDATE BUSINESS MODEL RED FLAGS

	The business' commercial success substantially depends upon:	Examples of how climate-related risks and actions interact with business models to create risks to people and business
RELATED TO THE VALUE PROPOSITION		
1	Lowest cost goods or services in ways that put pressure on labor rights	• Company net zero strategies are putting further downward pressure on supply chain worker wages and leaving little margins to address working conditions. • Physical impacts of climate change, including rising temperatures and more frequent extreme weather, are further exacerbating risks to workers.
3	Construction or commencement of projects with timelines that do not allow sufficient time for consultation with groups affected by the projects	• In response to the rapid scale-up of low carbon energy capacity, energy transition mineral mining and renewable energy projects are being "fast-tracked" by companies and governments, through minimization (or elimination) of affected local community consultation.
4	Offering privatized access to public goods and services, such as water, health, security and housing, where profitmaximization affects access or quality	The low carbon transition and the physical impacts of climate change have the potential to intensify inequality when coupled with the privatization of public services, such as electricity, water provision or wastewater treatment. Examples include: • Rapid transition from fossil fuel-based electricity grids to lower carbon grids in privatized electricity markets have the potential to drive up costs to consumers, and jeopardize access by vulnerable communities. • In the wastewater sector, climate change is intensifying water-related disruptions like heavy rainfall, and sea-level rise, which overwhelm treatment systems and increase the release of untreated sewage into the environment. • Climate-induced water scarcity combined with privatized water services can significantly impact clean water access for vulnerable populations, as communities and smallholder farmers compete with water intensive industries such as agribusiness and mining.
RELATED TO THE VALUE CHAIN		
11	Speed in developing products or services, or delivering projects, with risks to health and safety	• Ambitious timelines for renewable energy and critical mineral projects in response to global or national climate change objectives are having implications for living and working conditions of those working on and around those projects. • Physical impacts of climate change, including rising temperatures and more frequent extreme weather, can be expected to further intensify risks to workers and working conditions created by pressure to produced products and services or develop projects on condensed timelines.
12	Land use in geographic locations where ownership is often contested or records are unreliable or land users such as indigenous groups are unrecognized	• The low carbon transition is expanding the range of businesses that carry this business model risk, as exemplified by the rneable energy value chain, for which the demand for land to mine transition minerals essential to low carbon technology, as well as to develop low carbon energy projects such as wind, solar and biomass. Further, increased demand for nature-based solutions leveraging land-based carbon sequestration is further intensifying demands on land.
13	Depleting or polluting natural resources or public goods such that it undermines access or health	• The low carbon transition is intensifying impacts on people in relation to this red flag, for example transition mineral mining operations (e.g., copper, lithium) depleting water supplies in increasingly water scarce regions. • Physical climate impacts will exacerbate the impacts on local communities resulting from industrial depletion or pollution of natural resources where the natural resources on which communities depend for their livelihoods are increasingly scarce or under threat.
14	Commodities with unclear provenance and/or lack of visibility into impacts on workers or communities	• Increased demand for commodities used in climate technologies (e.g., cobalt and copper for EV batteries, polysilicon for solar panels) that have documented human rights issues in their supply chains, including child and forced labor. • Market demand continues to grow for greenhouse gas emissions-based commodities, such as carbon credits or offsets, amidst growing concern for the environmental and social integrity of such commodities, including impacts on communities at project sites. • Climatic variation and extreme weather worsening conditions for workers involved in sourcing these commodities (e.g., cobalt).

ANNEX: UPDATE BUSINESS MODEL RED FLAGS

	The business' commercial success substantially depends upon:	Examples of how climate-related risks and actions interact with business models to create risks to people and business
RELATED TO THE VALUE CHAIN		
25	Activities, products and/or services that significantly contribute to cumulative greenhouse gas emissions and the resulting physical climate change impacts that negatively affect people's rights	• Companies whose business models significantly depend on high-emitting industrial activities, products or services make important contributions to increasing global GHG concentrations and global temperature rise, which is increasing physical climate change impacts (e.g., sea-level rise, ocean acidification, extreme weather), with severe and pervasive, risks and harm for nature and for people, including to the human rights to life, health, food, water, and adequate standard of living.
RELATED TO THE COST STRUCTURE & REVENUE MODEL		
17	Labor relationships that are structured to avoid costs that come with formal employment arrangements	• Gig workers, especially those responsible for ride-hailing and delivery services, are increasingly impacted by climate-related events (e.g., heatwaves, storms, flooding), often without access to worker protections as a result of their employment categorization (e.g., sick leave, workers' compensation, rest time or protective equipment).
18	Sourcing low-paid labor from labor providers, where there is little visibility into or control over the protection of worker rights	• As labor shifts to expanding low carbon sectors, such as renewable energy, these sectors are increasingly dependent on low-paid, often migrant labor, sourced through labor providers.
19	Trading or sourcing agricultural commodities that are priced independently of production costs, such that farmers are unlikely to be able to sustain a living income	• In response to corporate net zero commitments, companies may reduce reliance on smallholder farmers within company value chains or place greater emissions reduction requirements on farmers with limited resources, putting further downward pressure on farmer incomes. • Extreme weather events, such as droughts and floods, and increased temperatures can result in crop losses, impacting crop production, crop lifetimes, and pricing with corresponding impacts on farmer livelihoods, further intensifying the impacts of triggered by this red flag.
21	Rapid digitalization of processes and key functions such that planning or support for upskilling or redeployment of displaced employees is challenging to achieve	• If not managed appropriately, the simultaneous economic transformations of decarbonization and digitalization have the potential to expand the range of impacts on people. For example, in response to "green skills" shortages employers may choose to bypass workforce training and upskilling by deploying digital and AI solutions.
23	Operating in, lobbying for or expanding into markets where laws or regulations fall below international human rights and environmental standards	• Climate transition or circular economy strategies that hinge on exploitative land/resource use or informal labor arrangements with negative human rights impacts in markets with laws or regulations that fall below international standards (e.g., land acquisition for renewable energy projects or biofuels development, relying on informal labor in recycling hubs, sourcing critical minerals or other primary materials from operations linked with unsafe working conditions or relying disproportionately on nature-based solutions for carbon offsets).
24	Aggressive strategies to minimize taxation, particularly with respect to operations in developing countries	• Aggressive corporate tax strategies are linked to diversion of funds needed to finance mitigation and adaptation to climate change, including actions that benefit the most vulnerable. • Corporate avoidance or minimization of carbon taxation schemes.