

Investment Protocol for Operationalizing Supply System Resilience Strategies for Climate and Disaster Risks

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INTRODUCTION

This investment protocol is a companion resource to the **Strategy Playbook for Disaster and Climate Resilient Supply Systems**. The protocol provides investment guidance to companies in implementing different components of a shared (multi-company) climate and disaster risk strategy. The parameters and recommended investment categories are designed for two or more companies within a supply system working in coordination to reinforce critical points in the supply chain that have been identified as being exposed to shared climate and disaster risks to operations. The goal of the investment categories in the protocol is to build shared capabilities among partner companies to reduce disaster-related losses and strengthen their ability to generate, interpret, and use climate intelligence to address climate impacts.

Accelerating private sector investment and innovation to address climate and disaster risk requires stronger alignment among business partners to build shared resilience. Without an effective, customized work program that companies design for their supply chains, they will continue to respond to impacts in reactive ways, making incremental adjustments to growing disruptions. Over time, this reactive approach can have significant economic consequences and can create ongoing pressure that leads to rushed decisions and short-term resource allocations aimed at simply keeping operations profitable and viable, rather than preparing to thrive amidst evolving risks.

Creating and testing new models to optimize disaster risk management and climate adaptation requires investments in both technical and non-technical components. Technical tools and resources are needed to measure risk, track progress, and evaluate outcomes. Non-technical investments are equally important, including learning, socialization, and activities in the field that will provide a more rounded understanding of the processes of change driven by climate impacts, such as effects on workers, their families, and their communities.

Whether planned or reactive, climate adaptation and supply system resilience are ongoing processes. As such, they must continually evolve as conditions change. The purpose of these investments is not to produce a series of independent solutions. Instead, the goal is to create and embed an innovation engine within and across organizational structures that translates a resilience strategy into an adaptable implementation plan with concrete activities.

This engine should be able to evolve from a simple starting point, such as establishing a joint team and designating contact points across two or more organizations, into a more mature system. Over time, it should support dedicated processes to map and plan for climate impacts and to generate shared intelligence and capabilities among business partners. It should also enable organizations to set targets that reflect their context, monitor change, create incentives, and develop metrics that demonstrate the economic and social value of a tailored program.

This protocol sets out parameters to help businesses work with partners to identify ways to optimize investments, whether initiating, accelerating, or reorienting activities, to address climate and disaster risk while building a structure for companies to create shared value across the supply chain.

INVESTMENT PARAMETERS FOR BUSINESS PARTNERS

What do companies need to achieve?

A learning and evolving innovation system both delivers and recognizes the value of undertaking proactive measures to address climate and disaster risk with business partners. It is a system that supports the development of shared solutions for adapting to the impacts of climate change.

Partner companies should consider the following minimum parameters to assess and communicate, within and across organizations, the rationale for investing in new resources or activities that will make up a climate and disaster risk work program. These parameters can guide partners towards developing a learning model focused for designing and implementing customized solutions that reveal the next steps, rather than pursuing single, isolated projects or pilots.

PARAMETER 1. ESTABLISH A DESIGNATED CLIMATE RISK LIAISON TEAM OR COMMITTEE TO CONNECT BUSINESSES THROUGHOUT THE SUPPLY SYSTEM



Is there a person in each organization designated to address climate and disaster risk? What are the most desirable and useful roles within the organization to coordinate the process of implementing different solutions?

These individuals or teams can connect vertically within one organization to aggregate and integrate information or resources, and horizontally outside the organization to connect with clients and suppliers. This multi-organization team can begin to craft the questions establish shared parameters; this will be an evolving process based on mutual probing questions and concerns.

PARAMETER 2. BEGIN TO ARTICULATE SHARED RISK AND SHARED VALUE



Does the planned investment address a shared risk (not just an issue within one company) that will strengthen the supply system? Does the investment build capacity in the organizations for addressing a shared risk with a partner?

The investment should seek to stabilize operations or prevent cascading disruption by reinforcing material resources or capabilities at key locations. It should help build or strengthen relationships and build trust among partners. It should capture (and share) the value associated with proactive adaptation to risks.

**PARAMETER 3.
TARGET REAL
LEVERAGE POINTS
TO ADDRESS
VULNERABILITY**



Does the planned investment address where the system is most vulnerable?

Partners should seek to pinpoint vulnerabilities based on historical disruptions and projected risks with agreed metrics and indicators. The prioritization of critical points, such as bottlenecks in the supply system processes, or capabilities of critical suppliers in key corridors, will help develop a procedure for addressing second- or third- tier priorities.

**PARAMETER 4.
IDENTIFY AND
ADDRESS THRESHOLDS**



Have the partners categorized and validated the thresholds for extreme events of the different companies?

Companies must define financial thresholds (the ability to withstand shocks by absorbing costs or spending to recover) and operational thresholds (recovery time, failure limits) at key nodes based on historical recovery times or business continuity plans. These thresholds will help inform when to trigger investment escalation. This can be done for each individual company but also used to establish shared thresholds for different parts of the system.

**PARAMETER 5.
MEET PARTNER
REQUIREMENTS FOR
INFORMATION CONTENT,
QUALITY AND FORMAT**



Have the partners defined the sources of information, and people responsible for them, to understand climate and disaster risks? What is the type of information required and in what format should it be shared among partners?

This can include business continuity plans, evaluations and reports of disaster losses, and more detailed data for developing shared risk scenarios.

**PARAMETER 6.
ACCOUNT FOR
OPTIMAL APPROACHES
BASED ON BUSINESS
SIZE**



Does the investment balance technical solutions with social or cultural components to address climate risk?

The investment must consider not only the different capacities of the businesses based on their size, industry and location, but also consider the combination of tools, activities and incentives needed to help people understand and contribute to work plans, provide the opportunities to create meaningful impact and contribute to creating a learning loop for the companies.

**PARAMETER 7.
ADDRESS
FACTORS AND
BARRIERS THAT LIMIT
COLLABORATION**



Does the investment explicitly address a barrier to implementing a shared strategy?

This includes working to unlock confidential information, knowledge, skills or resources from different silos; develop shared language and terminology; deploy technology to create a pipeline for coordination across organizations and geographies; test common thresholds; and overcome cultural barriers.

**PARAMETER 8.
CREATE A
LEARNING LOOP**



Does the investment include a detailed protocol and plan to document risks, existing practices and ideas for new solutions?

Any new undertaking should seek to establish an inventory of successes and lessons from across the supply system, identify past disaster losses, and ensure key individuals at critical nodes are included in validating or providing their input in evaluating the investments. Investments should include learning diffusion mechanisms, such as training, field briefings, internal messaging groups, newsletters or field reports.

INVESTMENTS TO OPERATIONALIZE A SHARED CLIMATE AND DISASTER STRATEGY

The types of investments proposed in this protocol focus on disbursing resources, pooled by business partners or provided by one partner, to directly strengthen resilience beyond the normal scope of operations. This approach will be challenging. Each investment should generate new information and transferable lessons for multiple companies that are dedicating financial, human, material, or technical resources to innovations that address climate and disaster risks.

The following section provides guidance on different ways business partners can invest to develop and strengthen an innovation ecosystem that is oriented to recognizing risk, building partnerships, deploying solutions, and using the resulting information and lessons to create value for the individual companies and supply system as a whole.

INVEST IN IDEAS

It seems like an obvious, routine investment choice; however, identifying and investing in ideas is not straightforward. Companies may struggle to surface and capitalize on opportunities, and to communicate risk-related ideas clearly from all points in operations. Valuable ideas may come from line and field workers, middle managers, senior leadership, and collaborations with external partners.

This kind of investment can serve as a stepping stone for learning about risk by generating and testing solutions shaped through partner dialogue, especially when risks require localized, practical adaptation measures. It should encourage small, contained pilots at any point in the value chain, where partners and staff can benefit from the outcomes. Participation should involve low barriers to entry, with a simple way for staff at any level to propose ideas and request funding as an incentive for innovation across the supply system.

Anchor companies can fund these ideas through any of their suppliers, since successful pilots can produce lessons that are transferable to other suppliers in the system. Even when the leverage point is upstream, such as addressing worker heat exposure, ideas that stabilize operations and benefit the supply system downstream, still qualify as meaningful resilience investments.

As a baseline requirement, each pilot should connect to the different hierarchies and result in a documented procedure that can be added to a shared inventory, including context, steps, cost, adoption notes, and results.

Investment examples:

- Knowledge gathering activities such as site visits, field or floor observations, and peer-to-peer dialogues to reveal both constraints and feasible changes to reduce risk.
- Organize partner “stress-test” working sessions to define thresholds and escalation triggers for different tolerance of risks.

INVEST IN NEW TYPES OF CAPABILITIES

Investing in training and skills development can build participants' capacity to understand risk and identify ways to integrate risk information into the system. In practice, however, a focus on capability requires a broader mix of resources to design and deploy solutions. Training personnel alone does not guarantee meaningful solutions will follow. These investments should therefore assume a longer arc for converting risk information into action and sustaining continuous innovation.

To advance a shared climate and disaster risk adaptation strategy, partners will need to fund and formalize designated points of contact and assemble cross-company teams. These groups can undertake shared risk assessments, agree on a methodology, and identify priorities that demonstrate the value of early investments in addressing these risks.

Capability enhancements should prioritize consistent climate terminology, alignment on the range and specificity of potential shared costs from future impacts, review of historical disaster costs and lessons, and the integration or development of processes that generate mutually valuable information. These investments also support the creation of meaningful indicators and milestones, so strategies do not remain theoretical.

Although these investments emphasize disaster prevention, a practical starting point is to test business continuity plans through tabletop exercises or scenario sessions between partners. These sessions can help identify key personnel across organizations, uncover preparedness gaps and needs, and validate financial and operational thresholds that trigger an escalation process for actions and solutions.

Capability investments should also ensure that key personnel are trained not only in extreme weather alert interpretation and response, but also how those alerts are passed within and across organizations, and in how to mobilize resources effectively when action is required.

INVEST IN TECHNOLOGY

As teams begin to form, creating an efficient communication channel is critical. Beyond information flow and rapid messaging, platforms that allow partners to share photos and videos are essential for visually explaining risks, damages, and solutions, and for building a catalogue or inventory of activities across the system. These technology investments should aim to improve interoperability on climate risk among business partners throughout the supply system and should prioritize tools that connect to alert sources and support localized dissemination and escalation.

A practical starting point is to use a shared, widely accepted platform across organizations, such as WhatsApp or other simple, shared tools. As teams build trust and their needs evolve, adopting technology that offers a wider range of services for different participants and roles can help sustain the effort. This is especially important for senior leaders who may not have the time or proximity to understand the nuance of activities across the system, but who need clear, actionable intelligence to inform decisions.

Technology investments should generate data and information that improve shared visibility and decision support without creating new silos. Many sophisticated tools provide geographic analysis, large volumes of risk information, or weather forecasts. However, if information

Investment examples:

- Training and skills development for strategic teams.
- Updating key risk management information.
- Sharing resources (physical or technological) for the prevention of, and intervention in, emergency situations.
- Developing methodologies through standard applications to facilitate joint operational practices.

cannot be understood and shared in ways that create value across the system and within companies at multiple operational scales, these tools can unintentionally narrow information flows and actionable options by excluding people with critical skills and local knowledge.

Platforms should therefore support local languages, accommodate different education levels, and make it easy to source and share information that helps pinpoint emerging risks and identify new ideas for adapting the system.

INVEST IN INFRASTRUCTURE

Investments in infrastructure can build resilience by reducing the risk of physical disruption at critical nodes, such as fixed assets, logistics corridors, storage, enhancing worker protection, and shortening recovery times. In practice, this requires trust and strong business partnerships, as well as a shared vision for stable and sustainable supply systems. While companies may invest in their own assets, investments can also include contributing funding or technical expertise to help partners select, design, locate, or finance infrastructure that reduces disaster risk and is suitable for future adaptation. Supporting partner infrastructure that enables continuity of supply operations is therefore a core part of this investment area.

Investments should incorporate future climate risk scenarios for the relevant geography and prioritize infrastructure that protects people, logistics, product quality, and inventory, while improving recovery time. Together, these measures should reduce the likelihood that companies, or the broader system, cross critical operational thresholds, or raise those thresholds so the system can withstand more intense extreme weather events.

In many cases, the assets may not be owned by the anchor company, but by partners that are essential to supply continuity. This can include upstream assets or shared infrastructure if they stabilize the overall system. Investments may include retrofits and upgrades to existing infrastructure and material assets, as well as, where necessary, the relocation of critical fixed assets.

INVEST IN PLACES

A company's resilience is only as strong as the people who make up its workforce, including fieldworkers. These workers are part of families and communities that are often closely intertwined with critical points in a company's supply chain. This is especially true for industries that depend directly on primary raw materials in hotspot regions around the world. Investing in place is intended to direct resources to where risk manifests, in the specific geographies, communities, corridors, and clusters that make up a supply system.

Investment examples:

- Joint implementation and acquisition of technology suited to the company's reality, operations, and location (e.g., monitoring technologies and risk analysis).
- Climate indicator databases and models to observe variations in different scenarios (e.g., heat, precipitation patterns, storm frequency) using shared data between businesses.
- System wide communication tools, such as simple channels already used effectively that can scale across hierarchies.
- Early warning distribution and escalation tools.
- Shared risk mapping and partner exposure datasets (coordinates, hazard changes, damage records).

Investment examples:

- Field warehouses with improved insulation for cooling/ventilation or built in locations with lower physical risk of flood, hurricane or wildfires.
- Cooling stations for field workers.
- Shared storage facilities owned by the anchor company that can serve multiple suppliers in the same geographic region or community.

These investments can include nature-based solutions that strengthen local ecosystems, such as restoring wetlands or other natural flood buffers. They can also support solutions that reduce transport or energy disruptions after extreme events, benefiting staff and their households and shortening recovery time for companies returning to normal operations.

Priorities should focus on geographically vulnerable areas, such as coastal, drought-prone, or flood-prone locations, identified through joint risk mapping. While best practices can provide useful guidance, investments should avoid one-size-fits-all frameworks and instead reflect local realities. They should be informed by changes in topography, as well as worker and staff experience in managing common risks, and should expand to more robust planning when risks are more complex.

These investments should also aim to maximize impact by aligning with a cluster or corridor approach. This means focusing on economic clusters and sub national regions to build resilient trade corridors among several companies, ideally in coordination with local authorities and other stakeholders.

Investment examples:

- Place-based resilience plans.
- Localization and broad coverage of early warnings.
- Community brigades (training partners, clients, the community, authorities).

INVEST IN COMMUNICATIONS AND ADVOCACY

When communicating about climate risk management or resilience building solutions, companies should focus not only on accomplishments. They should also communicate evolving risks, the early stages of work, and the activities as they unfold. These are valuable, observable changes, and even failed activities can provide important lessons. These should be shared with both internal and external audiences.

Internal communication is critical to breaking down silos and encouraging staff at different levels to develop a culture of climate literacy. Risk information should flow as part of normal business routines, and staff should be supported in identifying where their skills and knowledge can strengthen the effort.

The real value lies in translating a complex set of global environmental changes into localized, practical understanding grounded in the reality of each system. This should include sharing risk maps, and evidence of damages and their wider impacts, as well as company-specific or product-specific risks and thresholds. Done well, this information can support broader industry efforts to identify and access resources to address climate impacts.

As partner companies document losses, potential solutions, and opportunities to leverage resources, external communications can evolve from sharing lessons and actions to strategic advocacy with government. They can also help form new coalitions with stakeholders that support local resilience building, including nongovernmental organizations, universities, and international organizations.

Industry associations will be central to diffusing lessons and connecting companies and supply chains to climate finance. These efforts can focus on securing resources that create an enabling environment, including locally driven standards, public infrastructure that supports multiple actors' adaptation efforts, stronger early warning capacity, and more diversified investment mechanisms.

Investment examples:

- Engage in municipal dialogues related to zoning regulations, or private-public partnerships to support emergency service agencies.
- Communications materials, diagrams, infographics and stories of risk or adaptation solutions by people in the supply system and the community.
- Participation in working groups with different local stakeholders and partners working on climate, sustainability and disaster risk to find resources, promote solutions or share lessons for the industry.

CONCLUDING REMARKS

This protocol calls for investments that are pooled, governed, and decided jointly by two or more partner companies; not as isolated, one-time projects, but as a shared approach to reducing climate and disaster risk across the full supply system. Without a deliberate, customized work program built with partners, companies will still adapt, but mostly through reactive, piecemeal adjustments that quietly accumulate costs, strain decision making, and heighten vulnerability at critical nodes.

This protocol anchors investment decisions in partnerships, including designated cross-company liaisons, a clear articulation of shared risk and shared value, prioritization of real leverage points, agreed financial and operational thresholds that trigger escalation, and practical standards for information content and exchange. Just as importantly, it recognizes that collaboration is not automatic, so investments must explicitly address barriers to trust, coordination, and shared language, while building a learning loop that makes resilience work visible, repeatable, and improvable over time.

Taken together, the investment categories outlined, including ideas, capabilities, technology, infrastructure, places, and communications and advocacy, form a pathway for partners to evolve from basic coordination into a mature, continuously learning innovation system. Each investment is designed to strengthen resilience beyond business-as-usual operations while producing actionable intelligence and transferable lessons that can scale across suppliers and geographies. By documenting what works and what does not, aligning incentives and metrics, and integrating local realities, especially the knowledge and experience of workers, families, and communities, partners can reduce cascading disruptions, shorten recovery time, and raise the system's tolerance to extreme events.

Ultimately, this protocol is a practical call to action: start with shared contact points and joint problem definition; invest where vulnerability is highest; track outcomes rigorously; and use the resulting evidence to build durable resilience that delivers measurable economic and social value across the supply chain.