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by Kühne Foundation

United Nations Decade of Sustainable Transport
2026–2035



2026 Global Sustainable Logistics Survey (GSLS)

Full Report

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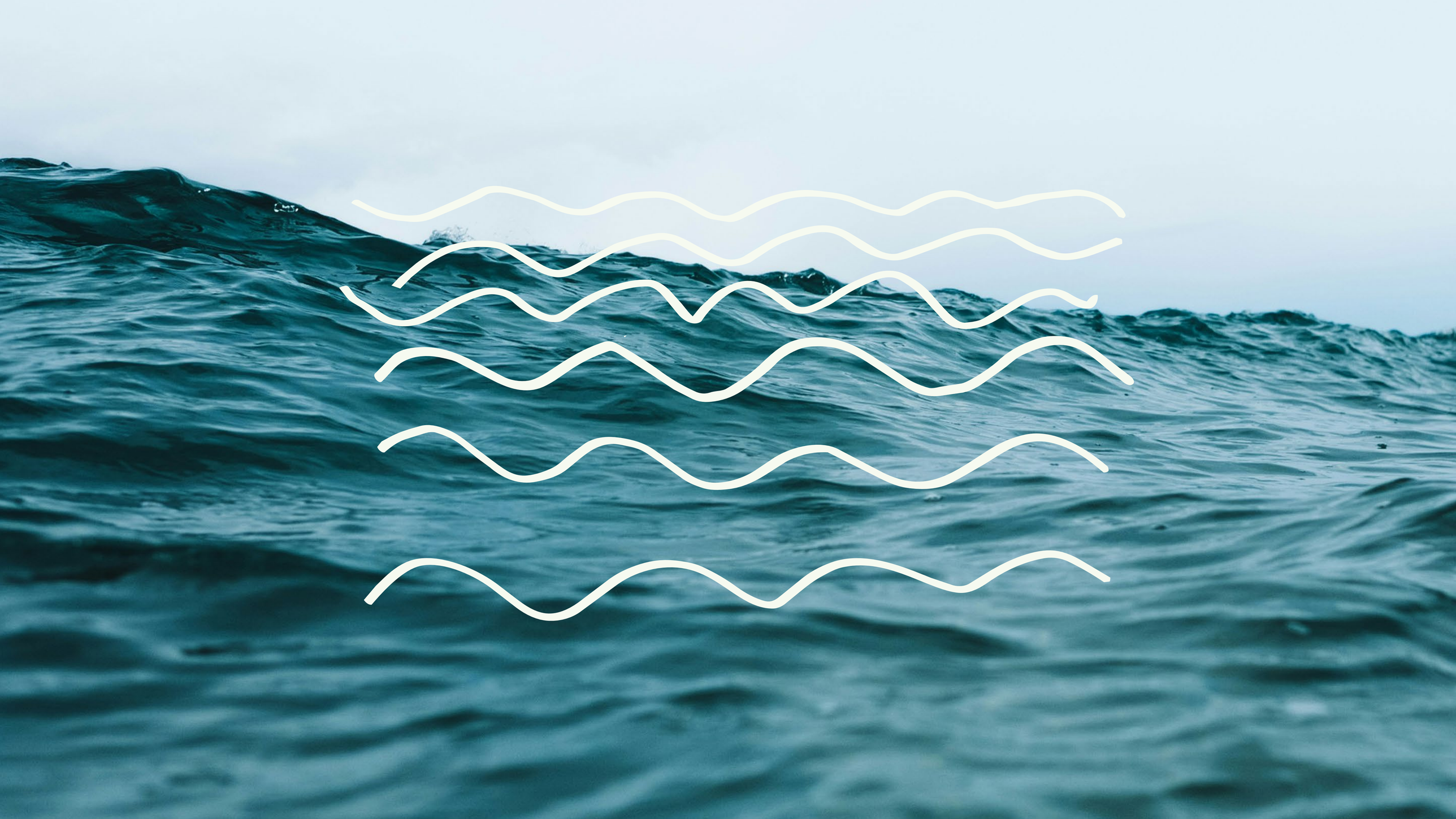
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Executive summary

Logistics moves every physical product that is made, traded, or consumed. The sector accounts for around 11% of global CO_2 emissions and still runs largely on fossil fuels. Because of its extensive network of assets and infrastructure, it is highly exposed to disruptions from climate change, and logistics therefore must cut its own emissions while preparing for climate impacts.

The 2026 Global Sustainable Logistics Survey (GSLS) asks logistics professionals how they see the sector's situation. A total of 1,085 respondents from 64 countries took part, working for logistics service providers as well as the retailers and manufacturers that buy logistics services. The survey covers three topics: sustainability solutions, skills, and adaptation to climate risks, and will be repeated annually. Across all three areas, the same pattern emerges: professionals broadly agree on what needs to happen, but progress depends on whether individual companies, or the wider systems they rely on, are actually able to act.

Scaling sustainability solutions

A common misconception about the cause of slow progress on climate-related action is that logistics service providers and their customers disagree about what should be done. However, the survey does not support this view: both sides rate the 21 sustainability solutions almost identically and consider nearly all of them effective. What separates the solutions that are widely adopted from the rest is their feasibility. Consequently, solutions companies can implement on their own, such as route optimization and operational efficiency, are both effective and widely adopted, often because they require little up-front investment and save money while also cutting emissions. Conversely, low-carbon fuels, charging facilities, and fleet electrification are rated just as effective but adopted far more slowly, since they require significant investment and may depend on public policy support and investment in infrastructure – both of which are outside any one company's control. Carbon pricing is a telling exception: it is rated effective, and unlike most other under-adopted solutions it does not require public authority or infrastructure to implement – even internally as 'shadow pricing' - yet it remains among the least used. Adoption of the various solutions also varies sharply by region, especially for those that rely on new infrastructure.

The skills required for scaling sustainability solutions

On skills, three technical ones - emissions calculation and reporting, sustainable transport technology, and digital sustainability tools - stand out as both critical and scarce. Shortages vary sharply by region: technical skills are hardest to find in Latin America, Sub-Saharan Africa, and parts of Asia, while shortages of analytical and strategic skills such as systems thinking are more acute in Europe and North America.

Adapting logistics to climate crises

On adaptation, the survey highlights the broadly held view that climate change will reshape logistics fundamentally. Extreme heat is cited as the most pressing risk across every logistics mode and region, and the measures rated most effective - climate-proof infrastructure, scenario-based risk assessment, and digital monitoring – are expected to provide resilience against multiple hazards at once. Critically, fewer than half of those surveyed consider current adaptation efforts adequate, which should be a strong call to action to both policymakers and managers.

The 2026 GSLS report offers 10 recommendations for policymakers and 12 for managers for scaling sustainability solutions and accelerating the decarbonization of logistics. The following two pages provide an at-a-glance snapshot; and additional details can be found later in the report. Not every measure will fit every context or deliver the same benefit for the same effort. There are also regional variations, as Asia, South America, and Europe start from different positions in infrastructure, geography, regulation, skills, and climate risk. Similarly, industries and transport modes will move at different speeds.

Yet the direction is clear and shared across regions, providers and users of logistics. There are good reasons to expect accelerating progress in the coming years, as low-carbon technologies such as the electrification of land and alternative fuels at sea, become more affordable and, increasingly, represent the investment option that lowers emissions also lowers costs. But not every part of the system is moving at the same speed: charging networks, intermodal terminals, and rail capacity are growing more slowly than carbon-efficient vehicles and fuels, making the cost and complexity of infrastructure significant potential bottlenecks in the coming decade.

Overcoming this inertia requires action from both: policymakers must remove the barriers that hold back effective solutions, by speeding-up permitting and approval procedures, and managers must invest proactively, and in advance of legislation that compels them to act.

Recommendations for policymakers

Scaling sustainability solutions

1. **Develop a context-specific enabling policy framework for sustainable logistics:** Frameworks should focus on solutions that are rated effective but rarely adopted, such as low-carbon fuels, electrification, and intermodal transport.
2. **Raise standards for widely adopted and effective operational and supply-chain solutions:** Data-sharing rules and stricter green public procurement might help companies get more out of solutions that already work.
3. **Harmonize regulations to enhance multimodality and cross-border freight while developing relevant infrastructure:** Governments should set modal-shift targets for freight transport and invest in intermodal terminals, ports, and multimodal corridors.
4. **Establish multi-stakeholder partnerships for peer exchange, joint action and resource pooling:** Shared platforms allow partners to develop sector roadmaps and pool resources for pilot projects and shared infrastructure.
5. **Provide incentives for regional cooperation and technology transfer:** Governments should fund technical assistance programs and build bilateral partnerships for knowledge exchange.

Building skills

6. **Prioritize the scarce technical skills:** Publicly funded education and certification programs should focus on emissions reporting, sustainable transport technology, and digital tools.
7. **Design programs at subregional resolution:** The largest technical skills gaps are found in lower-income regions, so capacity building should start there.

Adapting to climate risks

8. **Give logistics and transport a visible place in national adaptation strategies:** The sector is underrepresented in national adaptation plans, and more visibility improves its chances of appearing in budgets.
9. **Scale and target adaptation financing:** Funding should go first to areas with the highest vulnerability, such as road freight in South America and Africa.
10. **Share adaptation strategies, regulations, and experience internationally:** Respondents across regions point to similar risks, so countries can build on each other's experience.

Recommendations for managers

Scaling sustainability solutions

1. **Move ahead with capital-intensive solutions while demanding changes in policy frameworks:** Companies that move early build know-how and meet customer expectations before regulation requires it. Investments can be staged while preserving flexibility.
2. **Work with peers, customers, and suppliers through industry initiatives and buyers' alliances:** Buyers' alliances pool demand and give suppliers a basis for investment.
3. **Use an internal carbon price to guide investment decisions and prepare for external carbon pricing:** An internal carbon price makes climate impact part of the business case.
4. **Exploit operational and supply-chain solutions, inside and beyond the compan:** these solutions usually pay for themselves, and their potential is far from exhausted.
5. **Make greater use of education and training:** Training is inexpensive and strengthens every other measure, because new tools and vehicles only deliver when people can use them.

Building skills

6. **Treat training as an investment, not a cost:** Scarce technical skills will become even harder to find, so companies should build them internally.
7. **Share skills across borders, a lever no labor market offers:** Companies that operate in multiple regions can transfer knowledge between their own sites.

Adapting to climate risks

8. **Professionalize climate risk assessment and keep it live:** Scenario planning and digital monitoring keep the risk picture current throughout the year.
9. **Make the cost of non-adaptation visible in financial planning:** Companies should estimate what heat, storms, and water scarcity would cost them and compare those losses with the cost of adapting.
10. **Wire climate risk assessment into capital allocation:** Investment decisions should be tested against scenarios that include a carbon price.
11. **Build resilience into the replacement cycle:** Assets are long-lived, so specify every renewal or upgrade for the climate conditions expected over its lifetime.
12. **Develop contingency plans for severe climate-related disruptions:** Plans should prepare alternative routes, carriers, and terminals and define in advance who decides what.



Introduction

1

Introduction

"This report will not prevent the next heatwave, wildfire, or drought. But it can make the role of logistics in climate change more visible, both as a source of emissions and as a sector already living with the consequences."

In late May 2026, temperatures across northern India stayed above 45°C for days. Delivery riders in Delhi kept working through the afternoon because the app's ten-minute promise didn't change with the weather. The national disaster authority had advised suspending outdoor work between 11 a.m. and 4 p.m., but the advice was not binding[1]. In mid-July, a Canadian National freight train stopped near Armstrong, Ontario, and was trapped by wildfires while waiting at a signal. The crew had to abandon the train. Canadian National rerouted transcontinental traffic for the rest of the week[2]. On August 14, the Rhine depth gauge at Kaub in Germany fell below 10 centimeters, the lowest level recorded since measurements began in 1880. Barges were carrying only a fifth of their usual load, and chemical producers upstream began warning customers about possible delivery problems[3].

Such extreme weather events used to be exceptional. As the climate changes, they are increasingly setting the operational conditions for logistics, including freight transport and warehouses. The consequences of many of these events for the transport of goods remain largely invisible to people outside the logistics sector. Why? Because many logistics companies respond as they usually do: they find other routes, reduce loads, move work to the night, and pay more. In most cases, the goods still arrive. That ability to keep things moving despite operational disruptions is arguably one of the sector's greatest strengths.

Yet this resilience has a downside: it obscures the sector's dual role in climate change. Logistics is both a major contributor to climate change and, at the same time, one of the sectors highly exposed to its consequences. On the one hand, logistics moves every physical item produced, traded, or consumed through highly complex global networks of freight vehicles and logistics sites. Because transport is a service, its activities cannot be decoupled from the underlying demand to move goods. For those operations, the sector still relies heavily on fossil fuels. It accounts for around 11% of global CO_2 emissions, and its emissions have continued to rise while many other sectors have started to cut theirs. On the other hand, logistics is itself highly exposed to a changing climate. Critical infrastructure—ports, road, and rail routes—is fixed, and, together with vehicles and workers, cannot simply be relocated to where conditions are more favorable. Logistics therefore faces two problems at once. It must cut its own emissions while preparing for climate impacts that are already affecting its operations today: both require money, people, and capable management.

Despite its importance and impact, logistics still gets relatively little attention in public debate and infrastructure planning, certainly by comparison with passenger transport. And when freight transport is discussed, the focus is often on numbers: how many zero-emission trucks have been registered or how much alternative fuel has been produced. These metrics matter, but they cannot explain why a particular sustainability solution takes off in one region and struggles in another. Nor do they explain why companies can agree on what works and still fail to put these effective measures into practice. To understand that, it is necessary to ask the people making those decisions.

The Global Sustainable Logistics Survey (2026 GSLS) aims to fill this gap. In 2026, 1,085 logistics professionals from 64 countries in 12 UN subregions told us which sustainability solutions they consider effective and feasible, and how widely they are being adopted. They also told us which skills their organizations need to decarbonize logistic operations but which they cannot find, which climate risks they face, and how they are responding. The survey integrates these three aspects: new solutions need people who can implement them. Those people need the right skills. And companies must develop both while managing the effects of climate change on their operations today.

This report is aimed at two groups. The first is policymakers, who shape the conditions in which logistics operates. The second is managers leading and operating on both the supply and demand sides of the logistics industry; effectively the professionals who have responsibility for preparing their businesses for climate change. The following three sections present the findings on sustainability solutions, skills, and adaptation. We outline ten recommendations for policymakers and twelve recommendations for managers across the three topical areas. The last section brings the findings together and looks at what comes next.

The GSLS is designed to track the logistics sector's progress over the course of the UN's Decade of Sustainable Transport (2026–2035). This report summarizes the results of the first survey in an annual series and establishes a baseline for tracking trends over the Decade. Future surveys will show whether and how professionals' perceptions, capabilities, and practices change over time in three areas that match the Decade's strategic priorities: more efficient and connected logistics, the shift to low- and zero-carbon transport, and the use of technology and innovation. Over time, and by consistently measuring which sustainability solutions practitioners consider relevant and where skills gaps remain, the GSLS will provide evidence for monitoring progress and will maintain and update the fact base to inform action by policymakers and the industry.

This report will not prevent the next heatwave, wildfire, or drought. But it can make the role of logistics in climate change more visible, both as a source of emissions and as a sector already living with the consequences. It can also show where the sector stands, what holds it back, and where policymakers and companies can act to move faster on both mitigation and adaptation. The images of intact landscapes we use throughout this report are a reminder of what is at stake and of what logistics, done differently, can help to preserve.



The 2026 respondents

2

The 2026 respondents

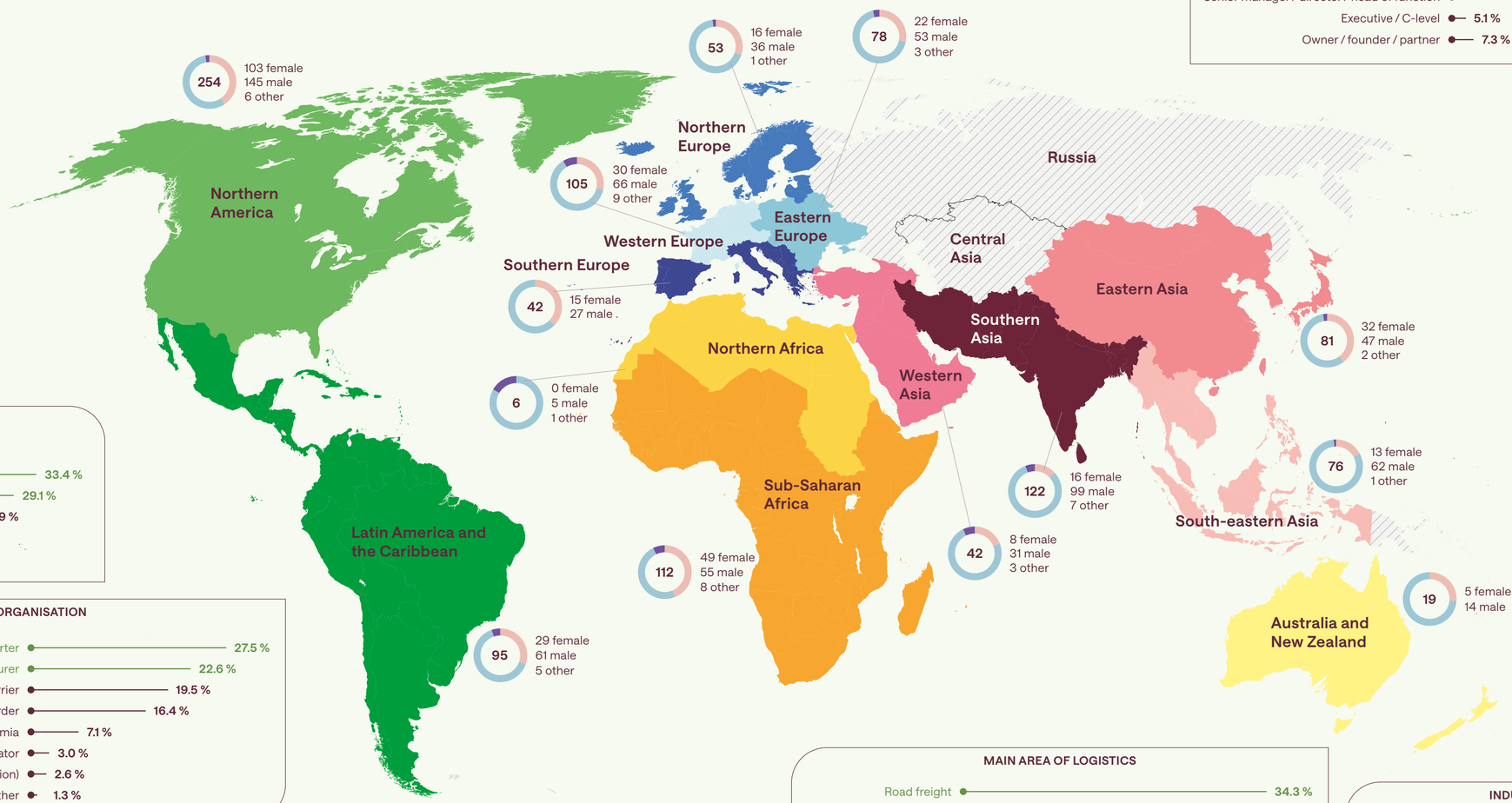


From March to August 2026, we gathered 1,085 completed responses to the 2026 GSLS from logistics professionals across 64 countries. Figure 1 shows the map with respondents by UN subregion and gender, and provides additional information about respondents. We received substantial numbers of responses from nearly all of the UN subregions. By continent, 29.6% come from Asia, 27.6% from North America, and 25.6% from Europe. We excluded five subregions: Central Asia, Melanesia, Micronesia, and Polynesia (no responses); and Northern Africa (too few responses). Our analysis also does not include Russia (classified as part of Eastern Europe), as we were unable to gather responses there.

In terms of demographics, seniority, and professional experience, 66.8% of respondents identify as male and 32.2% as female. On average, respondents are about 39 years old and have worked in the industry for about 7 years. Most hold a mid-level (47.4%) or senior-level (21.4%) management position. They report professional experience in industries such as consumer goods (34.9%), transport (20.5%), and food and beverages (9.5%), and their main areas of logistics expertise are road freight (34.3%), warehousing (22.7%), and sea freight (10.6%).

Most work for mid-sized (33.6%) or large companies (27.7%). They are primarily employed by asset-heavy logistics service providers (19.5%) that operate and in some cases own road, rail, and maritime transport plant and infrastructure, and by asset-light logistics service providers (16.4%) as well as by retailers (27.5%) and producers and manufacturers (22.6%). Both the supply side of logistics (35.9%) and the demand side of logistics (50.1%) are therefore well represented in the data.

Figure 1: Who answered the 2026 GSLS?
1,085 responses from 64 countries.



SENIORITY

Entry-level / early career	18.9 %
Manager / mid-level	47.4 %
Senior manager / director / head of function	21.4 %
Executive / C-level	5.1 %
Owner / founder / partner	7.3 %

ORGANIZATION SIZE (EMPLOYEES)

1–9 employees	8.0 %
10–49 employees	16.8 %
50–499 employees	33.6 %
500–10,000 employees	27.7 %
More than 10,000 employees	13.8 %

AGE OF RESPONDENTS

Under 25	7.8 %
25–34	34.4 %
35–44	28.0%
45–54	17.7 %
55–64	9.4 %
65 or older	2.1 %
Prefer not to say	0.6 %

YEARS IN CURRENT ROLE

Less than 1 year	4.7 %
1–3 years	33.4 %
4–7 years	29.1 %
8–15 years	21.9 %
16+ years	10.7 %
Prefer not to say	0.1 %

TYPE OF ORGANISATION

Retailer / Wholesaler / Importer / Exporter	27.5 %
Producer / Manufacturer	22.6 %
Asset-heavy logistics provider / Carrier	19.5 %
Asset-light logistics provider / Freight Forwarder	16.4 %
Consulting / Research / Academia	7.1 %
Public sector / Regulator	3.0 %
Civil society (NGO, International Organization)	2.6 %
Other	1.3 %

PRIMARY JOB ROLE

Operations	29.0 %
General management	19.9 %
Sales of logistic services	13.3 %
Planning of logistics services	12.9 %
Procurement of logistics services	9.0 %
Sustainability / Environmental management	7.8 %
Other	8.0 %

MAIN AREA OF LOGISTICS

Road freight	34.3 %
Warehousing	22.7 %
Sea freight	10.6 %
Urban / Last mile delivery	9.8 %
Air freight	8.4 %
Rail freight	3.4 %
Ports and freight terminals	2.2 %
inland waterways	1.1 %
Other	7.3 %

INDUSTRY SECTOR OF WORK EXPERIENCES

Consumer Goods	34.9 %
Transport	20.5 %
Food & Beverage	9.5 %
Resource Transformation	7.3 %
Extractives & Minerals Processing	5.4 %
Technology & Communications	4.7 %
Services	4.1 %
Health Care	3.9 %
Infrastructure	3.7 %
Financials	3.4 %
Renewable Resources & Alternative Energy	2.5 %

Note

Boxes – share of responses (% of total).



Feasibility decides: who scales sustainability solutions, and where?

3

Feasibility decides: who scales sustainability solutions, and where?

Sustainability solutions available to help decarbonize the logistics sector have grown in number and developed in maturity over the past decade. They range from low-carbon technologies and infrastructure, through operations and supply chain solutions, to sustainable supply chain management practices and market and governance solutions. Figure 2 provides the full classification of solutions covered in our survey, with examples across transport modes.

Logistics service providers - both asset-heavy and asset-light - are increasingly using these solutions to offer more sustainable services to their customers. Governments worldwide are implementing policies, investing in infrastructure, and otherwise seeking to facilitate access to and use of sustainability solutions. Retailers and manufacturers are beginning to demand more sustainable transport services. Yet uptake of sustainability solutions remains slow and uneven across regions.

This raises questions that our report addresses. Which solutions do logistics professionals consider the most effective for decarbonizing logistics? Why are some solutions widely adopted while others are not? How widely are these solutions adopted across regions? Can we identify a gap between how the supply and demand sides of logistics services perceive sustainability solutions? And how could policies and industry practices support their adoption and scaling?



Figure 2: Twenty-one ways to make logistics more sustainable.

Not all solutions considered effective are also globally adopted

Our results offer insights into how logistics professionals view different types of solutions. For each, we asked about the perceived state of adoption and the solution's perceived effectiveness in decarbonizing logistics.

Figure 3 compares the four solutions groups and reveals important differences in perceived effectiveness and adoption. Our respondents consider operations and supply chain solutions, including route optimization, supply chain optimization, and operational efficiency, to be widely adopted and effective. In contrast, we find the largest gap between adoption and effectiveness for low-carbon technologies, including low-carbon fuels, low-carbon fueling infrastructure, fleet electrification, and intermodal decarbonization. Views on market and governance solutions are less positive, as this group is considered least effective and, together with low-carbon technologies, least adopted.

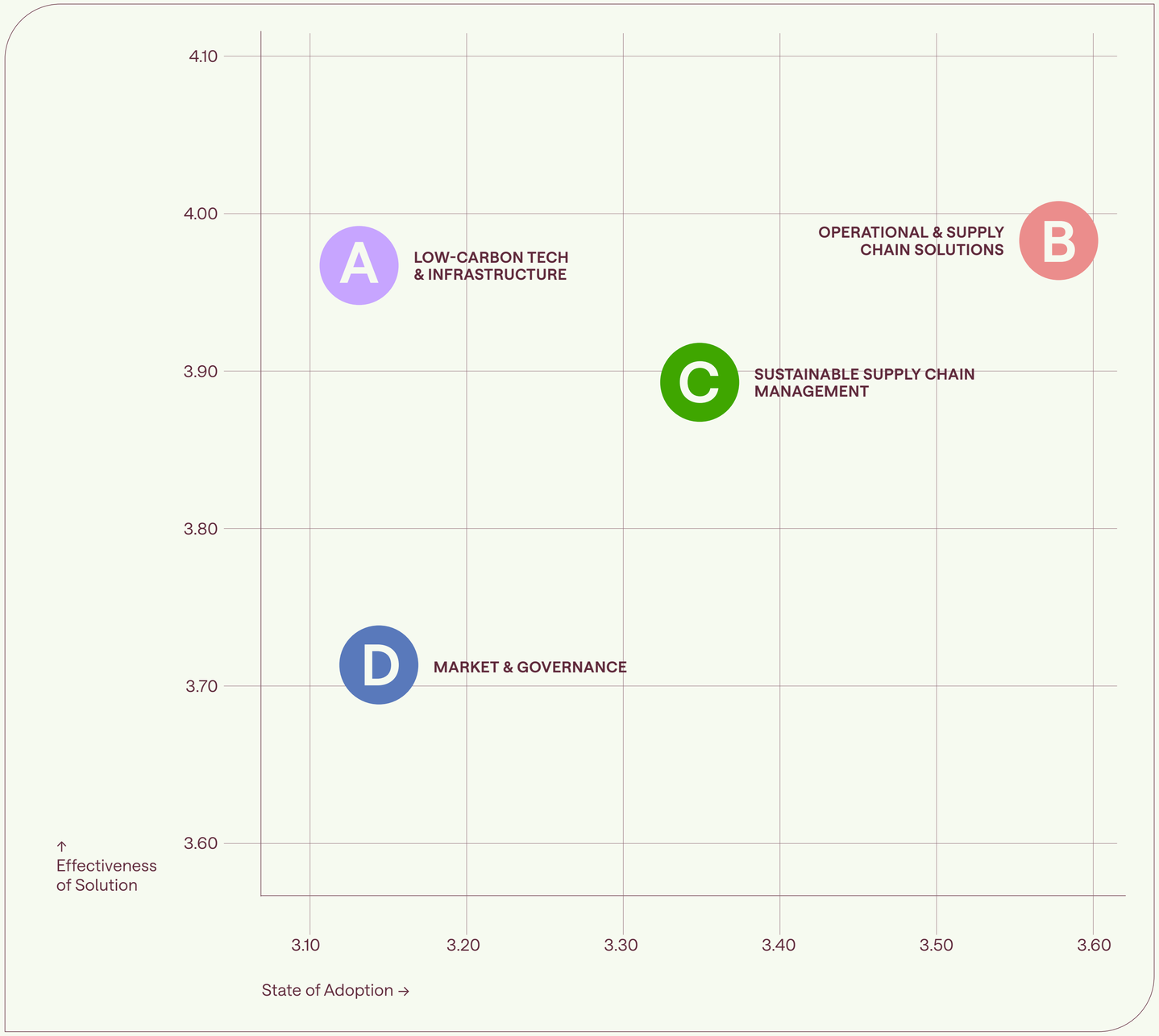


Figure 3: The gap between adoption and effectiveness of sustainability solutions.

Note

The axes are truncated and show a magnified section of the original 1-5 Likert Scale to emphasize differences between the four solution categories.



Figure 4: The effectiveness–adoption gap in sustainable logistics solutions.

Several specific solutions stand out and deserve particular attention, as shown in Figure 4. Among the low-carbon technologies, logistics professionals report markedly higher global adoption of vehicle efficiency and digital coordination: the two low-carbon technologies in our set that depend more on decisions taken only by companies than, for example, public infrastructure or policy investments or decisions. Another noteworthy result emerges within the market and governance solution group. Although this group is considered less effective overall, carbon pricing stands out as a solution whose perceived effectiveness clearly exceeds its adoption.

Carbon prices can be set by policymakers (e.g., carbon tax or emissions trading), or corporations can apply them through an internal carbon price, usually as a notional shadow price or internal levy[4]. Carbon pricing can therefore be deployed if a company decides to implement it, yet our results suggest that relatively few companies currently do so. In contrast, while reverse and circular logistics and modal shift also show a pronounced gap between adoption and perceived effectiveness, these solutions are harder for individual corporations to implement and scale. Instead, reverse and circular economy logistics require system-level changes, while modal shift heavily depends on the availability of - or willingness of governments to invest in - public infrastructure and equipment.

Adoption varies sharply by region

So far, our results show that while logistics professionals consider all solutions largely effective for decarbonizing logistics, adoption patterns differ, for example, depending on how far implementation of a solution depends on factors outside a company's control, such as infrastructure, capital requirements, and public policy. Our results, however, also reveal important regional differences in the uptake of sustainability solutions.

Figure 5 breaks down adoption across solution groups and continents. Compared with respondents in other regions, logistics professionals in Asia perceive nearly all sustainability solutions as more widely adopted. Respondents in South America, by contrast, report widely differing adoption rates across solution types. They perceive operational measures such as route and supply chain optimization as widely adopted, while low-carbon technologies, including low-carbon fueling and charging infrastructure, and rail and intermodal decarbonization, are seen as the least widely adopted. Another notable result is that European respondents rate adoption of many solutions much lower than respondents in other regions.

Figure 6 further breaks down the adoption by continent and individual solutions and shows that these regional differences vary by solution. For example, we observe particularly large gaps in the perceived adoption of rail and modal shift, low-carbon infrastructure, and supplier selection management. Respondents in South America report comparatively low perceived adoption of modal shift, whereas respondents in Asia report high adoption. We find similar patterns for low-carbon fueling and charging infrastructure, and supplier selection management, with a large difference between Asia (the highest-scoring region) and South America (the lowest). Overall, our results reveal clear regional differences in the perceived adoption of sustainability solutions. Generally, regional variation is greatest for infrastructure-dependent solutions and smallest for measures within corporate control.

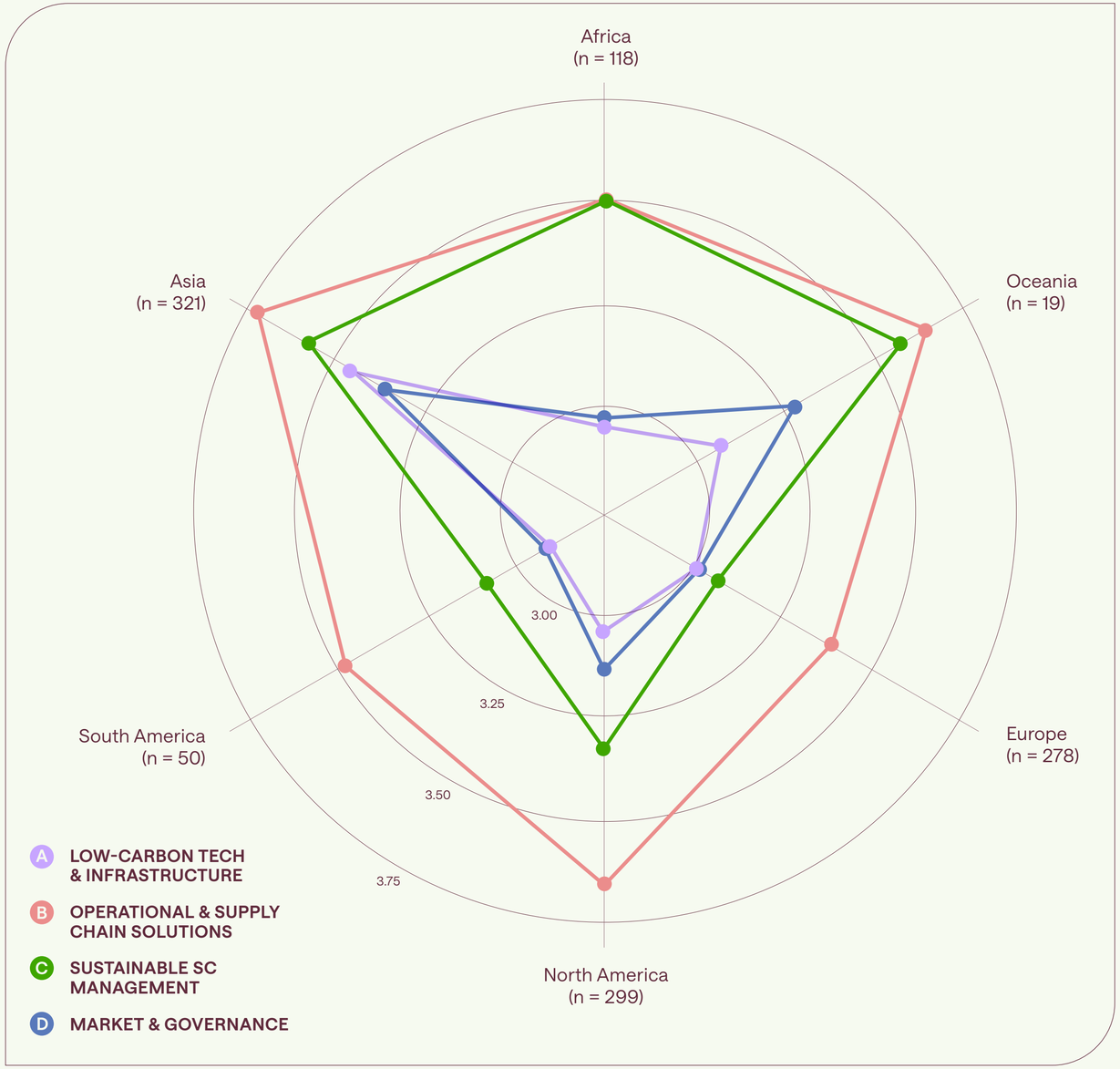


Figure 5: State of adoption of sustainability solutions groups across continents.

Note

Means scores per continent.
Mexico is counted as North America.
We truncated the axis at 2.75.

		Europe	North America	South America	Asia	Africa	Oceania
A	**LOW-CARBON TECH & INFRASTRUCTURE**						
1	Vehicle Efficiency	3.44	3.41	3.33	3.70	3.35	3.50
2	Low-carbon Fuels	2.61	2.53	2.73	3.28	2.59	2.61
3	Fleet Electrification	2.97	2.79	2.65	3.35	2.85	2.89
4	Digital Coordination	3.55	3.96	3.81	3.97	3.69	4.05
5	Low-carbon Fueling & Charging Infra.	2.53	2.68	2.46	3.17	2.65	2.79
6	Rail & Intermodal Decarbonization	2.99	2.78	2.37	3.20	2.81	2.68
B	**OPERATIONAL & SUPPLY CHAIN**						
1	Modal Shift	3.09	3.33	2.71	3.57	3.18	3.16
2	Route Optimization	3.92	4.10	4.02	3.88	3.76	4.05
3	Supply Chain Optimization	3.67	4.03	3.91	3.91	3.81	4.05
4	Operational Efficiency	3.41	3.69	3.56	3.90	3.57	3.74
5	Reverse & Circular Logistics	2.78	3.14	3.30	3.34	3.18	3.26
C	**SUSTAINABLE SC MANAGEMENT**						
1	Supplier Selection & Management	2.97	3.24	2.79	3.46	3.39	3.32
2	Change Management & Culture	3.06	3.31	3.02	3.54	3.54	3.68
3	Industry Collaboration & Partnerships	3.03	3.26	3.22	3.67	3.39	3.58
4	Education & Training	3.23	3.51	3.26	3.72	3.74	3.74
D	**MARKET & GOVERNANCE**						
1	Carbon Pricing	2.77	2.85	2.70	3.20	2.79	3.00
2	Offsetting	2.93	3.04	2.96	3.22	2.76	3.42
3	Emissions Reporting & Transparency	3.33	3.32	3.11	3.54	3.20	3.58
4	Market-based Solutions	2.82	3.05	3.14	3.34	2.91	3.11
5	Emissions Measurement & Tracking	3.21	3.30	3.00	3.54	3.12	3.37
6	Governance Solutions	3.05	3.23	2.75	3.36	3.15	3.21

Figure 6: State of adoption of sustainability solutions across continents.



Mabel Leva Henríquez

Executive Director, Fundación Conecta Logística, Chile

This report offers a rigorous, multi-regional contribution to the logistics sector, drawing on the perspectives of representatives from supply chains around the world. It highlights a challenge we see clearly in Chile: the need to accelerate modal shift in South America by further developing rail infrastructure and harmonizing cross-border standards. Investment in intermodal terminals and corridors, with landlocked countries and other countries along these corridors taking a leading role, is precisely the kind of action we encourage policy-makers to prioritize.



Carly Gilbert-Patrick

Secretary-General, SLOCAT Partnership on Sustainable, Low Carbon Transport

The Global Sustainable Logistics Survey stands out for the breadth of its global reach, drawing on both supply- and demand-side voices across freight transport and the logistics sector. The survey enabled us to define valuable policy and industry recommendations. To scale up sustainable, low-carbon solutions we require more effective policy frameworks supporting emission reductions, increasing resilience, and ensuring zero-emission freight solutions extended across all modes. Embracing these recommendations is an urgently needed action policymakers should act on without delay.

Little disagreement between supply and demand

One widespread explanation for why sustainability solutions fail to scale is a disagreement about their merits between the supply and demand sides of logistics services. We therefore asked respondents not only how widely adopted each of the 21 sustainability solutions is and how effective they are considered to be, but also about two further possible explanations for their level of adoption: Do companies adopt these solutions because important stakeholders, such as suppliers, customers, consumers, or investors, expect them to? We refer to this as 'stakeholder expectations'. And are they considered easy to implement? We label this as 'feasibility'.

We find no evidence of a fundamental divergence of views between supply and demand. As Figure 7 shows, logistics professionals on the supply side and on the demand side perceive sustainability solutions in remarkably similar terms. Logistics professionals on both sides rate nearly all solutions as highly effective and see stakeholder expectations as a key reason companies adopt them. Alignment is equally high on questions of feasibility. Where the feasibility of a solution is rated as low, that view is shared by both the supply and the demand side. Perceptions of sustainability solutions are therefore largely shared across the logistics market.

Figure 7 also shows that a closer look at individual solutions confirms this picture. For the four most widely adopted solutions (i.e., digital coordination, route optimization, supply chain optimization, and operational efficiency), logistics professionals on both sides agree on why these solutions have become widely adopted. The same holds for the least widely adopted solutions (i.e., low-carbon fueling and charging infrastructure, low-carbon fuels, carbon pricing, and rail and intermodal decarbonization). Here too, the alignment between supply-side and demand-side views is striking. Logistics professionals also consider solutions that are not widely adopted to be highly effective and backed by stakeholder expectations. The difference for less-adopted solutions lies in one dimension only: markedly lower views on their feasibility.

Figure 7: Supply- and demand-side evaluations of logistics solutions.

Note

Respondents rated each dimension on a 5-point Likert scale; values in cells represent average scores.

		State of Adoption		Effectiveness		Feasibility		Stakeholder Expectations	
		Supply	Demand	Supply	Demand	Supply	Demand	Supply	Demand
A	**LOW-CARBON TECH & INFRASTRUCTURE**								
1	Vehicle Efficiency	3.52	3.54	4.02	4.06	3.62	3.76	3.74	3.87
2	Low-carbon Fuels	2.88	2.77	3.93	4.07	3.04	3.07	3.58	3.68
3	Fleet Electrification	3.04	3.02	3.88	4.03	2.88	2.86	3.70	3.77
4	Digital Coordination	3.94	3.86	3.94	3.75	3.90	3.97	3.94	3.90
5	Low-carbon Fueling & Charging Infra.	2.86	2.76	3.92	3.98	2.87	2.76	3.50	3.47
6	Rail & Intermodal Decarbonization	2.96	2.95	3.80	3.94	2.90	2.75	3.37	3.36
B	**OPERATIONAL & SUPPLY CHAIN**								
1	Modal Shift	3.37	3.32	3.86	3.83	3.20	3.12	3.65	3.61
2	Route Optimization	3.88	4.05	4.10	4.18	3.86	4.10	3.80	3.90
3	Supply Chain Optimization	3.88	3.96	4.06	4.12	3.63	3.77	3.95	4.09
4	Operational Efficiency	3.73	3.70	4.04	4.07	3.84	3.88	3.99	4.02
5	Reverse & Circular Logistics	3.11	3.22	3.78	3.81	3.16	3.09	3.63	3.66
C	**SUSTAINABLE SC MANAGEMENT**								
1	Supplier Selection & Management	3.19	3.29	3.78	3.86	3.51	3.52	3.83	3.86
2	Change Management & Culture	3.31	3.38	3.66	3.64	3.45	3.35	3.56	3.57
3	Industry Collaboration & Partnerships	3.41	3.34	4.10	4.03	3.52	3.37	3.85	3.95
4	Education & Training	3.51	3.54	4.03	4.01	4.03	4.12	3.75	3.83
D	**MARKET & GOVERNANCE**								
1	Carbon Pricing	3.00	2.96	3.66	3.70	3.08	2.96	3.46	3.38
2	Offsetting	3.06	3.11	3.38	3.45	3.27	3.31	3.45	3.54
3	Emissions Reporting & Transparency	3.38	3.43	3.85	3.85	3.53	3.60	3.81	3.91
4	Market-based Solutions	3.15	3.13	3.60	3.60	3.30	3.26	3.63	3.60
5	Emissions Measurement & Tracking	3.32	3.38	3.90	4.04	3.50	3.56	3.83	3.83
6	Governance Solutions	3.17	3.27	3.70	3.79	3.35	3.36	3.60	3.67

What makes solutions feasible: corporate control and a business case

Our results reveal several underlying patterns. The solutions that are both widely adopted and considered effective are primarily those that companies have been able to implement independently. Many of the operations and supply chain solutions fall into this category, including optimization and efficiency measures that sit squarely within corporate control. These solutions decarbonize logistics, but they can also deliver substantial, more traditional financial benefits. They represent classic win-win measures that do not require painful trade-offs. Thus, while these solutions offer opportunities to decarbonize logistics, the motivation for implementing them, and therefore for scaling them across modes and regions, may well lie in the additional economic benefits they deliver.

Instruments that lie largely in the hands of managers tend to be more widely adopted than those requiring public authority, large capital investments, or favorable geography. At the same time, whether market and governance solutions are effective or adopted remains an open question in our results, as carbon pricing is the only solution from this group to appear among the five solutions with the largest gap between perceived effectiveness and adoption.

The less adopted solutions share a common profile, and our results suggest four explanations for their perceived lack of feasibility:

First, many of these solutions are capital-intensive and require public investment. Infrastructural changes in particular, along with the substantial research and development (R&D) and scaling costs involved in low-carbon fuels, depend on significant and sustained public commitment.

Second, many of these solutions fall under public authority, and the necessary policies are not yet in place. Public policies, regulations, and standards are also changing, and these changes take effect at different times in different locations.

Third, adoption is constrained by a region's geography. Building a railway system may be far less feasible in parts of South America than in Central Asia, where investments under the Belt and Road Initiative are expanding an already extensive rail network. Similarly, the role of inland waterways in modal shift is geographically constrained. Europe has the largest inland waterway network of any continent, but water levels on the Rhine and the Danube were at a record low in the summer of 2026. In Africa, by contrast, major inland waterways, including the Nile and Congo, are not navigable all the way to the sea, which limits their use for freight transportation. Regions therefore face different barriers, but they also offer different opportunities to accelerate the implementation of sustainability solutions.

Fourth, some solutions appear to call for a fundamental redesign of supply chains and logistics networks. Reverse and circular logistics, alternative governance solutions, and other market-based instruments all affect the underlying structure of supply chains – either the physical network or the rules by which emissions reductions are attributed. Even though some of these may generate significantly higher transport volumes, as circular models often do, they aim to reduce the carbon intensity of an economy. However, because this requires systemic change, these solutions are considerably harder for companies to implement unilaterally.



Prof. Jim Hall, PhD

Professor of Climate and Environmental Risks, School of Geography and the Environment University of Oxford

We know that there are many solutions to creating more sustainable logistics systems. From fleet electrification to modal shift, many solutions have been extensively researched, but are not getting taken up in practice as much as is needed for a sustainable future. The GSLS Report provides the evidence that is needed to understand what is happening in practice and what some of the barriers are. This will help to target policy and innovation. The GSLS Report also highlights the importance of skills to scale sustainable solutions, which is another challenge to which universities should be paying attention, using the information in the GSLS Report to tailor their educational to provide the sustainability professionals of the future.

Recommendations for policymakers

Develop a context-specific enabling policy framework for sustainable logistics

Decarbonization opportunities depend on regional conditions and available transport modes, so supporting policies and frameworks should target solutions considered effective but less adopted, like low-carbon fuels, electrification, and intermodality. These targets should be accompanied by infrastructure investment, financing support, and implementation timelines adapted to national conditions. For example, governments should set phase-out targets and zero-emission mandates for freight vehicles, such as the Global Memorandum of Understanding on Zero-Emission Medium- and Heavy-Duty Vehicles, which was launched at COP26 and is now a commitment under the UN Decade of Sustainable Transport.[5] Its signatories aim for zero-emission vehicles to make up 30% of new truck and bus sales by 2030 and 100% by 2040, and 41 countries, including Ghana, the Netherlands, and Tonga, have signed so far. Extending carbon pricing to all freight modes could help finance mode-specific decarbonization efforts. In the European Union, distance-based tolling is expected to cover 81% of road freight activity by 2027.

Raise standards for widely adopted and effective operational and supply-chain solutions

These solutions already work and are widely used, making them a practical starting point. Governments can therefore speed up their scaling by pushing harder for implementation and raising expectations for companies to adopt them. This could, for example, be implemented through mandated data-sharing regulations and protected ‘data commons,’ as the EU’s Digital Transport and Logistics Forum does. Raising standards would allow companies to optimize routes and supply chains using shared data. More rigorous standards for green public procurement, such as writing route-optimization and modal-shift criteria into public freight contracts, could help reinforce demand for these solutions.

Strengthen multimodal and cross-border freight through regulatory harmonization and infrastructure development

Multimodal freight policy needs a clear governance model that facilitates modal shift and the expansion of rail and port infrastructure. Governments have a long and rather unsuccessful history of setting modal-shift targets[6]. They must recognize hard barriers to freight modal shift and set more realistic targets, backed by integrated institutions and formal stakeholder involvement. They should also invest in intermodal terminals and ports and multimodal corridors through regional cooperation. For example, the ASEAN region is working to increase the number of cross-border freight agreements and establish an annual ASEAN freight coordination meeting.[7]

Establish multi-stakeholder partnerships for peer exchange, joint action, and resource pooling

These partnerships can turn agreement on what works into joint action on standards, procurement, and investment. Governments should enable or join domestic and international platforms that bring these stakeholders together. The Global DriveToZero program[8], the ALICE Knowledge Platform[9], and the Zero Emissions Freight Initiative (ZEFI)[10] in China are examples of successful partnerships for agreeing on uniform tracking, co-developing sector roadmaps, or pooling resources for pilot projects and shared infrastructure.

Provide incentives for regional cooperation and technology transfer

Knowledge transfer is essential to implementing these solutions. Governments should name technology-transfer objectives explicitly in their NDCs and freight transport strategies, fund technical-assistance programs, and build bilateral knowledge-exchange partnerships, such as the Sino-German Cooperation on Decarbonizing Freight Transport[11] or the Women on the Move – Transforming Transport in Asia network[12].

Recommendations for managers

Move ahead with capital-intensive solutions while demanding changes in policy frameworks

Low-carbon fuels, charging and fueling infrastructure, fleet electrification, and rail and intermodal decarbonization are rated highly effective, yet adoption remains limited: the barrier is feasibility, not conviction. Early movers build know-how and meet customer expectations before regulation requires it. And moving ahead now does not necessarily require immediate and full commitment: companies can start with staged investment, pilot projects, and other measures that already make the business case, while preserving flexibility as technology, infrastructure and regulation evolve. Yara's all-electric Yara Birkeland is instructive precisely because it was small, expensive, and unproven—the company took on the capital cost and the technical risk of a first-of-its-kind vessel while the rest of the industry waited.[13]

Work with peers, customers, and suppliers through industry initiatives and buyers' alliances

Logistics service providers and their customers hold broadly similar views on sustainability solutions. While not everyone is willing to pay more for their implementation, there is room for joint action. Companies can achieve more by working with others than by acting alone. Buyers' alliances pool demand so that suppliers can invest: the Zero Emission Maritime Buyers Alliance tenders zero-emission shipping on behalf of more than 40 cargo owners.[14] In India, 15 companies have used the government's e-FAST platform to signal joint demand for about 7,700 electric trucks by 2030, giving manufacturers and financiers a clearer basis for investment.[15]

Use an internal carbon price to guide investment decisions and prepare for external carbon pricing

Carbon pricing is rated as effective, yet it is one of the least adopted solutions in the survey. An internal carbon price makes the climate impact part of the business case, justifies investments that look expensive when judged on fuel costs alone, and prepares companies for external price schemes such as the EU's second emissions trading system for road transport fuels from 2028. Globally, 121 public carbon pricing instruments are in place, covering nearly 30% of global greenhouse gas emissions as of 2026.[16] As a corporate example, NYK Line has applied an internal carbon price to more than 300 vessel-specific decisions since 2020, at $120 per ton and rising to $250 from 2031.[17]

Exploit operational and supply-chain solutions, inside and beyond the company

Route optimization, supply-chain optimization, digital coordination, and operational efficiency are the most widely adopted solutions as they are effective and usually self-financing. But wide adoption does not mean their potential is exhausted. Lean & Green, joined by more than 600 European companies, starts with a 20% reduction in emissions per transported unit within five years before moving on to collaboration and supply-chain redesign.[18] Potential also lies across company boundaries: Japan's four large brewers share rail containers and trucks for their long-distance deliveries, cutting emissions by about three-quarters.[19]

Make greater use of education and training

Education and training is rated the most feasible of all solutions and among the most effective, yet its adoption trails these ratings. It is relatively inexpensive and can strengthen every other measure: route optimization, low-carbon vehicles, and modal shift only deliver when people have the capability to manage and implement them. Short courses on the GLEC Framework or ISO 14083 teach basic skills within a few days. In Zambia, Uganda, and Ghana, a consortium of logistics companies funds professional driver training run by the NGO Transaid with local training centers.[20]



Boyong Wang

Smart Freight Centre
China Director

This report is timely and highly relevant for China, where freight decarbonization now depends on moving from isolated pilots to coordinated market demand. Through SFC China's work with shippers, carriers, OEMs, infrastructure partners, and public-sector stakeholders, we are helping translate global insights into practical pathways for zero-emission freight deployment. By aggregating demand, building trusted partnerships, and supporting real-world corridor and fleet electrification initiatives, SFC China aims to accelerate the conditions suppliers need to invest, scale, and deliver zero-emission logistics solutions.



Relevant, but scarce: the key skills required to scale sustainability solutions

4

Relevant, but scarce: the key skills required to scale sustainability solutions

The second aspect of our survey focuses on the skills and expertise required to scale sustainability solutions globally. Even the best solution is only useful if companies have people with the skills to put it into practice. Whether a company can adopt route optimization, build a business case for fleet electrification, or report credibly on its emissions depends on the capabilities and competence available inside the organization, and in the wider labor market.

We asked logistics professionals about their views on three broader groups of skills. As Figure 8 shows, the first group covers technical and domain-specific skills, such as emissions calculation & reporting or health, safety & environmental compliance. The second covers analytical and strategic skills, such as strategic planning & scenario thinking or data interpretation & decision support. The third covers soft skills, such as change leadership & culture building or communication & advocacy.

Two questions guide this part of our report. Which skills do logistics professionals consider most important for strengthening the industry's capability to decarbonize? And where do they see the largest skills gaps today?



Figure 8: Twenty-One skills for more sustainable logistics: technical, analytical, and soft.

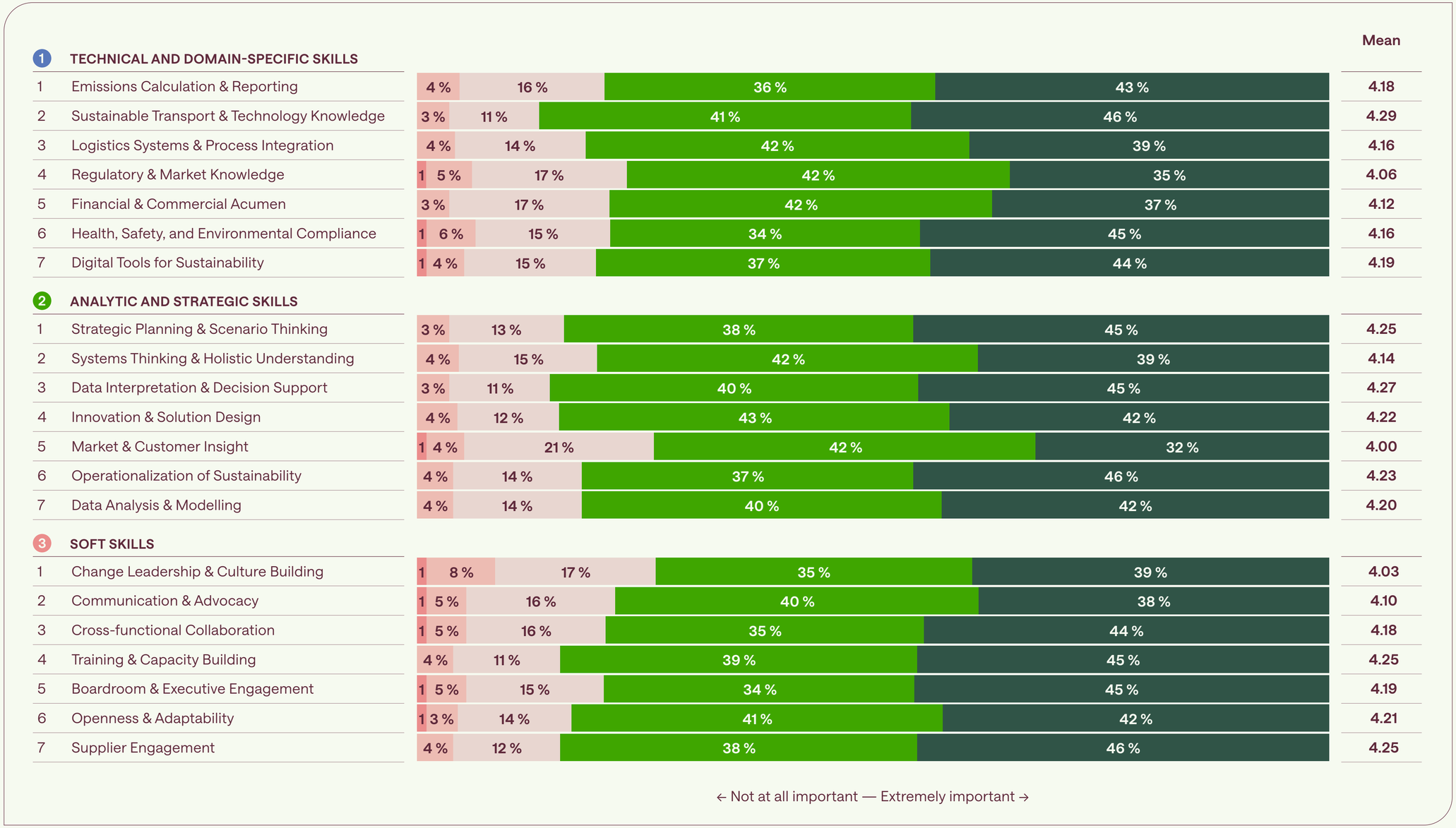


Figure 9: The skills that matter most.

Note

Respondents rated each skill on a 5-point Likert scale (1 = not at all important, 5 = extremely important). The mean for each skill appears on the right of each bar.

As Figure 9 shows, respondents consider all 21 skills relatively important. This pattern mirrors what our report found for sustainability solutions: there is broad agreement that the capabilities matter, with comparatively little differentiation between them.

The skills rates as most relevant are sustainable transport & technology knowledge, data interpretation, strategic planning, and supplier engagement. Those rated lowest are market & customer insight, change leadership & culture building, regulatory and market knowledge, communication & advocacy. What stands out is that the top and bottom of this ranking draw on all three groups: Relevance is not concentrated in the technical group, nor is it absent from soft skills. Thus, specific skills from all three groups are considered relevant, and other skills from all three groups are considered less so.

Technical and domain-specific skills appear in short supply

If skills are hard to differentiate in terms of their perceived relevance for decarbonizing logistics, what about their availability? In the survey, respondents were asked to select up to five skills they consider in shortest supply in their market. Figure 10 shows the share of respondents who included each skill among their five picks.

Here the differences are sharper. Globally, respondents consider technical and domain-specific skills particularly scarce. Emissions calculation & reporting is the single scarcest skill, selected by 35% of respondents, followed by sustainable transport & technology knowledge at 31.8%. Digital tools for sustainability (25.4%) and change leadership & culture building (22.9%) complete the four skills most frequently identified as scarce. Compared with others, the group of soft skills have been selected as a missing skill less often: cross-functional collaboration was selected by 16.4% of respondents, supplier engagement by 15%, and communication & advocacy by 11.7%.

Figure 10: Perceived skill shortages across 21 skills.

Note

Respondents identified up to five skills they consider in shortest supply in their market. The figure shows the share of respondents who chose each skill.

1 TECHNICAL AND DOMAIN-SPECIFIC SKILLS

1	Emissions Calculation & Reporting	35.0 %
2	Sustainable Transport & Technology Knowledge	31.8 %
3	Logistics Systems & Process Integration	19.3 %
4	Regulatory & Market Knowledge	19.4 %
5	Financial & Commercial Acumen	19.5 %
6	Health, Safety, and Environmental Compliance	16.0 %
7	Digital Tools for Sustainability	25.4 %

2 ANALYTIC AND STRATEGIC SKILLS

1	Strategic Planning & Scenario Thinking	22.4 %
2	Systems Thinking & Holistic Understanding	21.9 %
3	Data Interpretation & Decision Support	16.8 %
4	Innovation & Solution Design	20.4 %
5	Market & Customer Insight	10.0 %
6	Operationalization of Sustainability	21.3 %
7	Data Analysis & Modelling	19.9 %

3 SOFT SKILLS

1	Change Leadership & Culture Building	22.9 %
2	Communication & Advocacy	11.7 %
3	Cross-functional Collaboration	16.4 %
4	Training & Capacity Building	17.8 %
5	Boardroom & Executive Engagement	19.1 %
6	Openness & Adaptability	20.3 %
7	Supplier Engagement	15.0 %

Which skills are scarce but relevant for decarbonizing logistics?

Scarcity alone, however, says little about where action is needed. Skills may be scarce precisely because few companies have needed them so far. What matters for decarbonizing logistics is the combination of scarcity and relevance. Contrasting a skill's perceived relevance with its perceived scarcity helps identify the skills where action to close the 'supply and demand' gap may be most urgent. In Figure 11, we plot the relevance of specific skills against their scarcity in a two-by-two matrix. The top-right quadrant shows skills respondents consider relatively important but scarce. Emissions calculation & reporting, sustainable transport & technology knowledge, and digital tools for sustainability stand out here as scarce yet highly relevant. These are primarily technical and domain-specific skills.

In contrast, the bottom-right quadrant contains skills that are important and comparatively available in the market. As Figure 11 shows, many analytical and strategic skills are found here, including data interpretation & decision support and data analysis & modelling. Several soft skills that respondents rated as relevant also appear in this quadrant, among them supplier engagement and training & capacity building. The two quadrants on the left capture skills that respondents consider less important, whether scarce or readily available. Several skills fall clearly below the others in perceived relevance, including change leadership & culture building, market & customer insights, and communication & advocacy. These skills may well be relevant for objectives other than decarbonizing logistics, or they may simply matter less broadly across the industry than the capabilities in the right-hand quadrants.

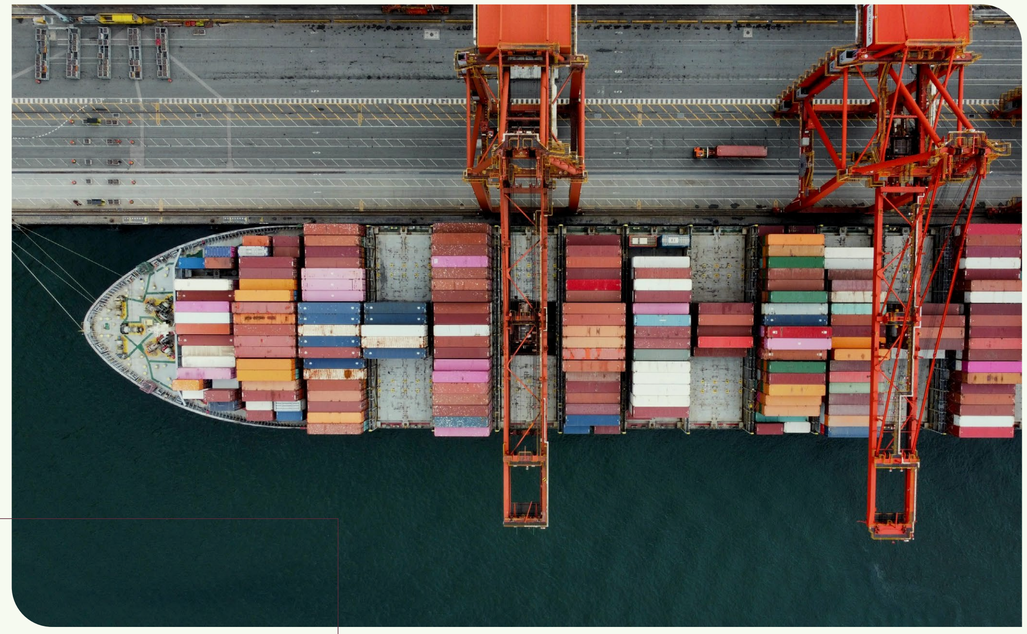
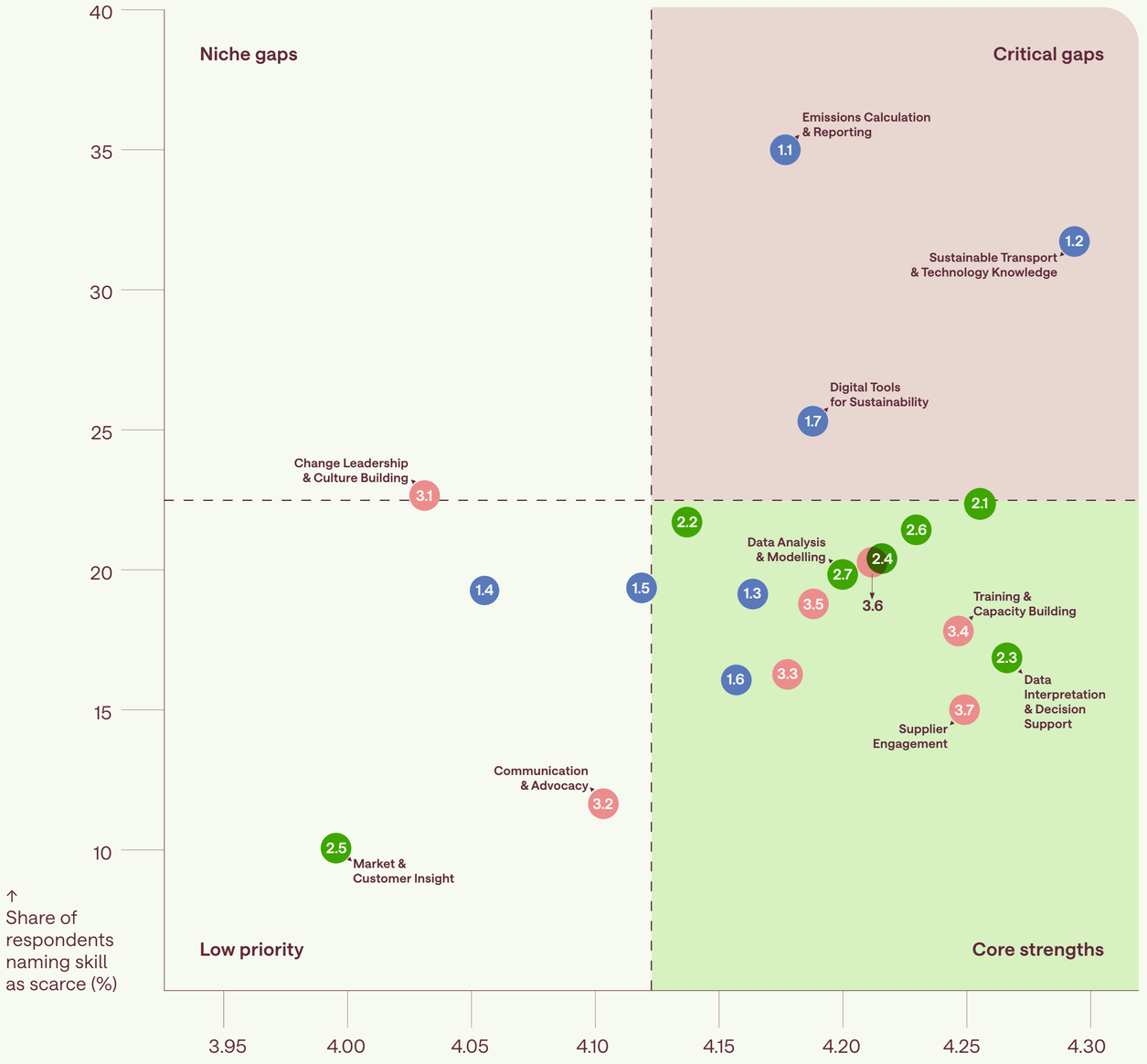


Figure 11: The most important technical skills are also the hardest to find.

Note

The x-axis for Importance is truncated and shows a magnified section of the original 1-5 Likert Scale to emphasize differences between skills.

1	**TECHNICAL AND DOMAIN-SPECIFIC SKILLS**
1	Emissions Calculation & Reporting
2	Sustainable Transport & Technology Knowledge
3	Logistics Systems & Process Integration
4	Regulatory & Market Knowledge
5	Financial & Commercial Acumen
6	Health, Safety, and Environmental Compliance
7	Digital Tools for Sustainability
2	**ANALYTIC AND STRATEGIC SKILLS**
1	Strategic Planning & Scenario Thinking
2	Systems Thinking & Holistic Understanding
3	Data Interpretation & Decision Support
4	Innovation & Solution Design
5	Market & Customer Insight
6	Operationalization of Sustainability
7	Data Analysis & Modelling
3	**SOFT SKILLS**
1	Change Leadership & Culture Building
2	Communication & Advocacy
3	Cross-functional Collaboration
4	Training & Capacity Building
5	Boardroom & Executive Engagement
6	Openness & Adaptability
7	Supplier Engagement



Skills are unevenly distributed across continents and regions

Our results also provide insights into the perceived availability and relevance of skills across different regions. Respondents across continents express varying views on how scarce they consider different skills. For example, respondents in Africa perceive a severe shortage of emissions calculation & reporting skills, whereas European respondents perceive these skills as sufficiently available. We find the opposite pattern for other skills. European respondents consider systems thinking and strategic planning & scenario thinking to be in short supply; respondents in Asia and Africa do not consider these skills nearly as scarce. Clearly, important geographical differences in perceived skill shortages run in both directions.

Looking at UN subregions makes these differences even clearer: they provide additional evidence of how starkly the availability of skills for decarbonizing logistics varies. Responses at this level of resolution in fact show that differences within continents (i.e., at the subregional level) are at least as pronounced as, and arguably more consequential than, differences between them. Emissions calculation & reporting illustrates the point. As Figure 12 shows, respondents from Western, Southern, and Northern Europe report low levels of shortage, in the range of 15% to 26%. Respondents from Latin America, Sub-Saharan Africa, and two Asian subregions, by contrast, report substantially higher perceived shortage for the same skill, ranging from 38% to 61%.

Our results on scarcity also offer valuable insight into the supply of digital tools for sustainability, which are perceived to be in short supply above all in Southern Europe (38%), Southern Asia (37%), and Sub-Saharan Africa (36%). For other skills, this pattern is nearly reversed. Systems thinking & holistic understanding appears in short supply in Western Europe (43%), whereas respondents in other regions perceive little scarcity, at 19% on average. Boardroom & executive engagement follows a similar pattern: Northern and Western European respondents perceive these capabilities to be in short supply, at 35% to 38%, while those based in Asian and African subregions report much lower perceived scarcity, between 4% to 12%.

In sum, technical and domain-specific skills appear to be in short supply, and particularly so outside Europe, with emissions calculation & reporting, sustainable transport & technology knowledge, and digital tools for sustainability the most notably scarce. Analytical and strategic skills form the second group in short supply, and here the gaps are concentrated in Europe and North America rather than in the regions reporting technical shortages. Emissions calculation & reporting remains the single largest gap our report identifies, and it is most acute in Africa.



Fernanda Rezende

Executive Director Confederação Nacional do Transporte (CNT)

Decarbonization and logistics resilience require a methodical approach. Technical studies and research like this one guide the private sector and policymakers, linking environmental goals to operational reality. Without consistent data to inform strategic decisions, there is no viable path for the future of transportation.

Figure 12: Skill shortages by UN subregion, from emissions reporting to supplier engagement.

		Northern America	Latin America / Caribbean	Northern Europe	Western Europe	Southern Europe	Eastern Europe	Western Asia	Southern Asia	Eastern Asia	South-eastern Asia	Sub-Saharan Africa	Australia and New Zealand
1	**TECHNICAL AND DOMAIN-SPECIFIC SKILLS**												
1	Emissions Calculation & Reporting	30 %	39 %	23 %	15 %	26 %	32 %	45 %	38 %	31 %	40 %	61 %	37 %
2	Sustainable Transport & Technology Knowledge	37 %	39 %	21 %	24 %	29 %	29 %	26 %	29 %	28 %	27 %	40 %	37 %
3	Logistics Systems & Process Integration	13 %	17 %	23 %	13 %	14 %	31 %	24 %	24 %	16 %	32 %	17 %	42 %
4	Regulatory & Market Knowledge	16 %	29 %	23 %	15 %	26 %	17 %	26 %	19 %	15 %	15 %	28 %	16 %
5	Financial & Commercial Acumen	16 %	23 %	13 %	18 %	24 %	16 %	24 %	27 %	11 %	21 %	27 %	16 %
6	Health, Safety, and Environmental Compliance	18 %	20 %	15 %	5 %	12 %	18 %	21 %	17 %	7 %	19 %	21 %	21 %
7	Digital Tools for Sustainability	19 %	22 %	21 %	19 %	38 %	22 %	21 %	37 %	33 %	24 %	36 %	5 %
2	**ANALYTIC AND STRATEGIC SKILLS**												
1	Strategic Planning & Scenario Thinking	21 %	22 %	28 %	27 %	36 %	35 %	14 %	21 %	14 %	19 %	19 %	16 %
2	Systems Thinking & Holistic Understanding	24 %	23 %	17 %	43 %	21 %	21 %	7 %	19 %	11 %	21 %	17 %	26 %
3	Data Interpretation & Decision Support	17 %	19 %	23 %	18 %	10 %	21 %	12 %	12 %	11 %	15 %	22 %	21 %
4	Innovation & Solution Design	19 %	27 %	25 %	25 %	19 %	19 %	12 %	17 %	15 %	27 %	17 %	32 %
5	Market & Customer Insight	12 %	8 %	4 %	10 %	5 %	12 %	14 %	14 %	4 %	15 %	7 %	5 %
6	Operationalization of Sustainability	24 %	27 %	15 %	24 %	21 %	14 %	21 %	18 %	15 %	20 %	24 %	42 %
7	Data Analysis & Modelling	19 %	24 %	15 %	15 %	14 %	26 %	21 %	20 %	12 %	21 %	26 %	11 %
3	**SOFT SKILLS**												
1	Change Leadership & Culture Building	26 %	22 %	32 %	31 %	36 %	27 %	17 %	15 %	23 %	13 %	15 %	11 %
2	Communication & Advocacy	15 %	4 %	21 %	6 %	12 %	14 %	2 %	9 %	9 %	12 %	17 %	5 %
3	Cross-functional Collaboration	16 %	17 %	23 %	26 %	17 %	16 %	10 %	15 %	12 %	21 %	8 %	21 %
4	Training & Capacity Building	20 %	21 %	21 %	15 %	21 %	10 %	10 %	16 %	22 %	16 %	20 %	11 %
5	Boardroom & Executive Engagement	24 %	30 %	38 %	35 %	26 %	14 %	12 %	5 %	11 %	4 %	6 %	32 %
6	Openness & Adaptability	33 %	16 %	26 %	17 %	26 %	17 %	14 %	16 %	10 %	12 %	15 %	21 %
7	Supplier Engagement	12 %	18 %	26 %	27 %	7 %	18 %	12 %	12 %	15 %	12 %	11 %	5 %

Regulation and maturity shape regional skill gaps

Why do we find such pronounced regional differences? We argue there are two possible explanations. Market expectations, public policies, and regulation offer a first explanation, shaping both how relevant respondents may consider a given skill and whether they perceive it to be scarce. For example, in regions where emissions reporting is mandatory, companies must build the corresponding capability and a market for that expertise develops alongside the requirement. Where reporting remains voluntary, there is less reason to acquire the skill and less incentive for training providers to supply it, which may explain much of the gap between European and non-European responses on emissions calculation & reporting. A related constraint applies further upstream. Where domestic engineering research and technical education capacity is limited, the pipeline for skills such as sustainable transport & technology knowledge is narrow regardless of what companies are willing to pay, and shortages persist even when demand is evident.

A second explanation may be that the need for skills follows a certain sequence. Some may be necessary before the need for others becomes apparent. Again, emissions calculation & reporting is a case in point. Companies first need to establish a structured calculation and reporting infrastructure before that data can guide strategic decision-making, and before it makes sense to hire employees dedicated to systems-thinking challenges. Leadership and organizational culture change initiatives are likewise easier to pursue once data transparency is in place, including transparency on the carbon intensity of operations. If the relevance and scarcity of skills follow a sequential logic, regions reporting shortages in systems thinking and boardroom & executive engagement are not further behind but further along: they have largely resolved the measurement question and are now encountering higher-level challenges.

This does not mean that soft skills are irrelevant. Technical skills are essential to identify and design solutions, but change leadership and management commitment may be decisive for scaling these solutions across organizations. Change management & culture, industry collaboration & partnerships, and education & training all appear as sustainability solutions in their own right in our report, and systems thinking emerges as a relevant gap in several regions. Skills such as change management, collaboration, systems thinking, and leadership may seem peripheral to decarbonizing logistics because they do not directly relate to the technological and organizational challenges of scaling particular sustainability solutions. Nonetheless, they may be decisive for turning solutions into implemented actions, even where respondents rate them less relevant than technical capabilities. In other words, just because some skills are closer to the leadership and convening power of the CEO than the technician's acumen around carbon emissions, it doesn't mean they are less relevant to effectively decarbonizing logistics.

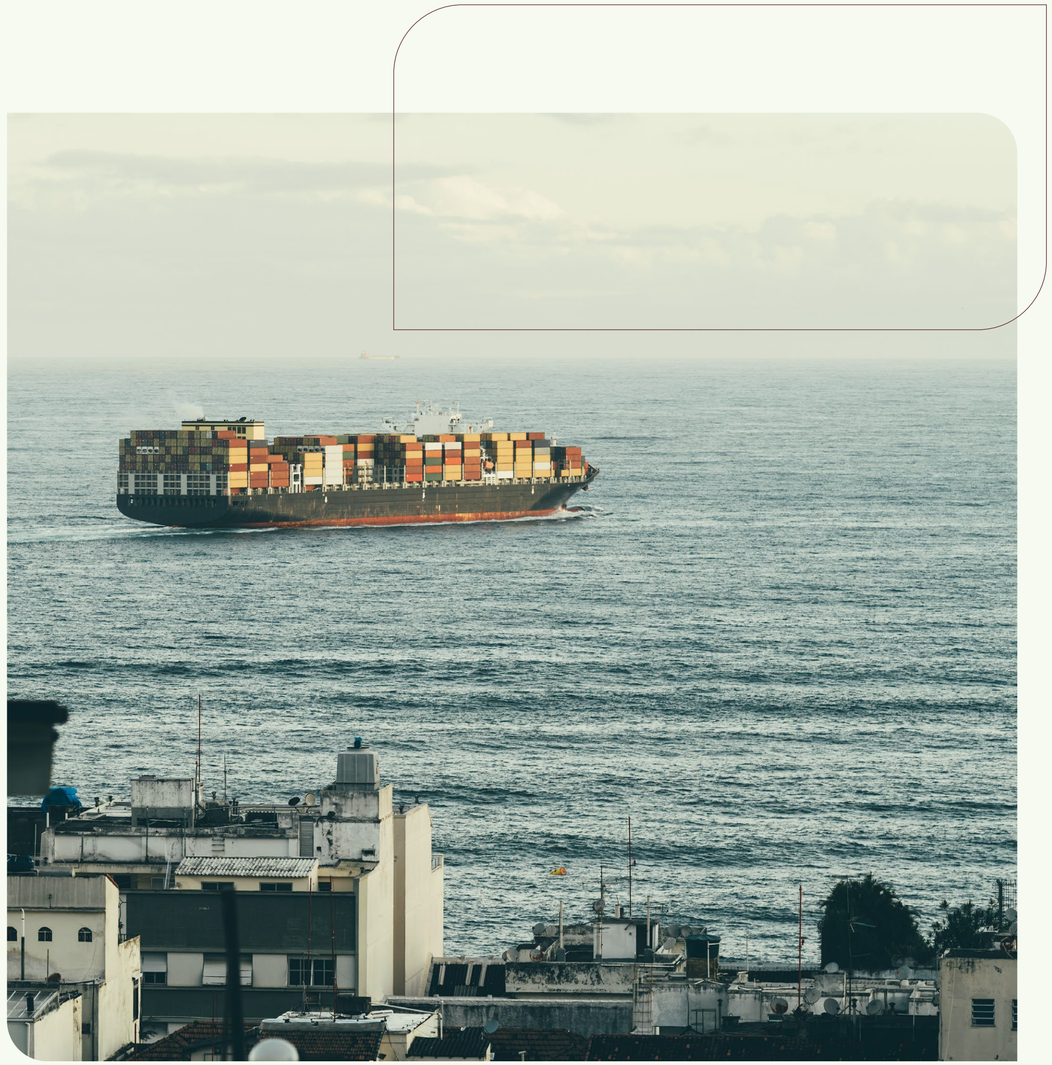
Three messages follow from our results, and they apply to policymakers and managers alike. First, the case for education and training has already been made. Among all sustainability solutions in our report, education & training scores high on effectiveness, feasibility, and stakeholder expectations. The challenge is turning that commitment into effective training. Efforts should focus on both the skills currently in short supply and anticipated future needs. Second, priority should go to the scarce technical and domain-specific skills. Emissions calculation & reporting, sustainable transport & technology knowledge, and digital tools for sustainability are both highly relevant and hard to find in the market. Third, skill gaps are subregional, so any effective response must be as well. Skills programs designed at continental scale risk targeting shortages where they do not exist and missing them where they do. What this means in practice differs for each group, and we address them in turn.



Dr. Niklas Wilmking

Managing Director,
Kühne Foundation

This report adds valuable evidence to the debate on skills in logistics. Training is among the most cost-effective investments the sector can make. After all, even the best technology is only as useful as the people operating it. Treating training as an investment rather than a cost is not just good practice – it is good business.



Recommendations for policymakers

Prioritize the scarce technical skills

This calls for formal educational programs, curriculum standards, accreditation, and certification schemes, backed by public funding, with a clear focus on emissions calculation & reporting, sustainable transport & technology knowledge, and digital tools for sustainability. The UK's Logistics Skills Alliance[21], a small-scale joint government-industry-education initiative, and the eco-driving and fuel-efficiency training offered through the US SmartWay Transport Partnership[22] are working models to draw on.

Design tailored programs at subregional resolution

The largest technical skills gaps exist in lower-income regions, and capacity building there is one of the most direct levers for accelerating global logistics decarbonization. Policymakers could use the survey findings to guide local skills assessments with employers and training providers, and to design programs that respond to identified needs. Programs such as LEARN Logistics[23], which builds capacity in low- and middle-income countries, and bilateral exchanges such as EV Skills Denmark–India[24] offer templates for this kind of cross-border knowledge transfer.

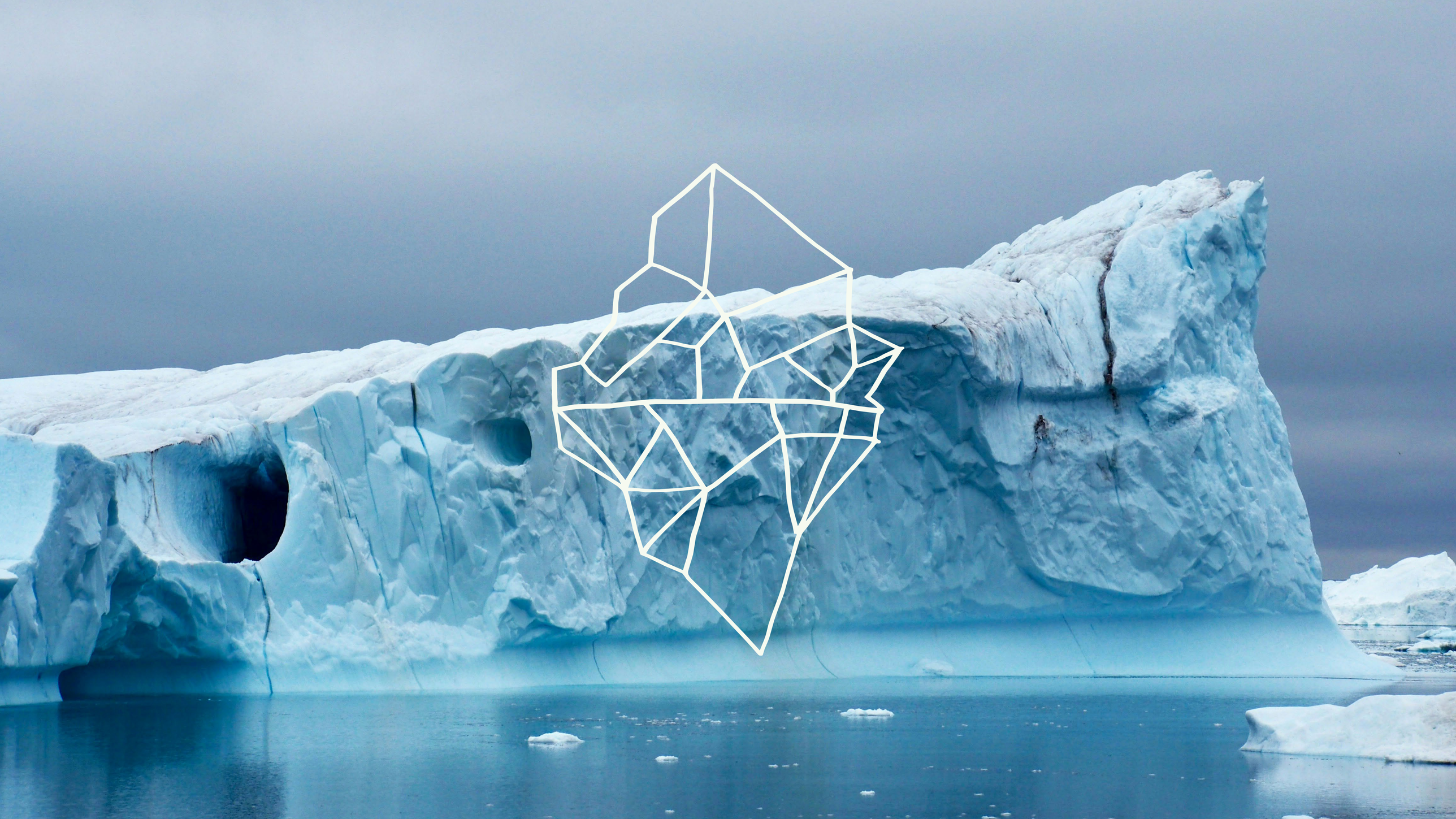
Recommendations for managers

Treat training as an investment, not a cost

The shortage will intensify as decarbonization commitments tighten. Professionals with skills in emissions calculation & reporting or sustainable transport & technology knowledge already command a premium, and companies should plan accordingly. Building these capabilities internally through tailored training programs is one response, with the added benefit of offering alternative career paths for existing employees. Aligning hiring and pay with the scarcity of individual skills is the other. Companies that secure these skills early gain a real competitive advantage in a market where others will struggle to find them.

Share skills across borders, a lever no labor market offers

Companies operating across regions can move knowledge between their own sites. Sharing best practices across borders, whether within the company or through international partnerships, addresses shortages where they are most acute, and it does so faster than local labor markets can.



Adapting logistics to climate risks

5

Adapting logistics to climate risks

The final section of our survey turns from decarbonization to adaptation: those measures that reduce exposure and vulnerability to the physical impacts of climate change.

We asked logistics professionals how concerned they are about climate-related risks, how resilient they judge current logistics systems to be, which risks they consider most pressing, which measures they consider effective, and which transport modes are most exposed. Respondents rated a set of climate-related risks, such as sea level rise and coastal flooding, extreme heat affecting assets and operations, storms and hurricanes, river flooding, wildfires, water scarcity, and weather-related landslides, alongside a set of adaptation measures drawn from current policy and industry debate.

Overall, we find a gap between the scale of change respondents expect and the adequacy of the response they observe. As Figure 13 shows, 83% believe that climate adaptation will require a fundamental redesign of logistics systems to adapt to the physical impacts of climate-induced extreme weather events. But only 45% consider current adaptation efforts adequate for the foreseeable future. This view varies considerably by region: European respondents are the most skeptical (23%), while a majority in Asia and Africa consider current efforts adequate. While these numbers are concerning, it is encouraging to see that 77% of respondents see climate adaptation efforts as aligned with decarbonization strategies. This suggests that, in practice, investments in decarbonization complement adaptation rather than compete with it.

"The survey showed transport modes to be differently affected by climate-related risks, with road freight, sea freight, and inland waterways rated as the most vulnerable network elements."

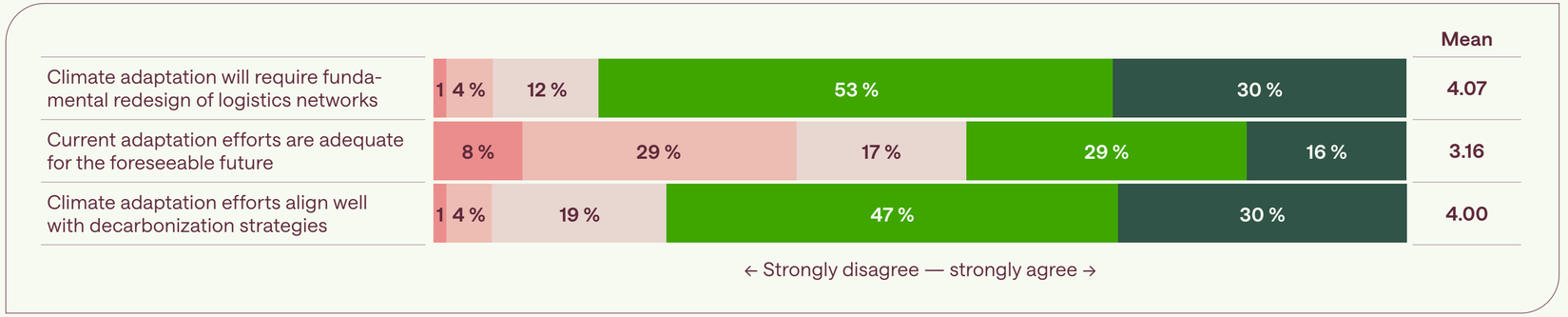


Figure 13: Most expect adaptation to reshape logistics, fewer than half call current efforts adequate.

Note

Respondents rated their agreement with each statement on a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree). The mean for each statement appears on the right of each bar.

Extreme heat: the dominant climate-related risk for logistics

Respondents identify extreme heat, storms and hurricanes, and water scarcity as the most pressing climate-related risks for logistics. Figure 14 shows that the effect of extreme heat on assets and operations ranks as the most urgent risk in every transport mode and every region surveyed. There are regional differences, though. For example, extreme heat is considered particularly pressing in Europe, North America, and South America. Water scarcity is a notably high risk in Latin America and the Caribbean, and storms in Eastern Asia.

The survey showed transport modes to be differently affected by climate-related risks, with road freight, sea freight, and inland waterways rated as the most vulnerable network elements. Road freight vulnerability is rated highest in South America and Africa, and inland waterway vulnerability is rated highest in South America; both well above the range reported for Europe, North America and Oceania. Sea level rise is rated a higher risk for sea freight, rail freight, and ports.

Effective climate adaptation measures are not risk-specific

If respondents largely agree on the nature and extent of the risks, do they also agree on the solutions? Three approaches are rated most promising for addressing climate-related risks: investing in climate-proofing infrastructure, running climate risk assessments and scenario planning, and using data and digital tools for climate risk monitoring. Equally, there was also broad agreement across the survey in rating transport diversification, insurance adjustments, collaboration, and stakeholder engagement as less effective than the leading measures. Some of them are, broadly, the softer and more diffuse measures. The pattern holds across continents, subregions, transport modes and job functions.

One further finding is worth emphasizing. As Figure 15 indicates, the measures respondents consider most effective apply across all climate-related risks, not just to individual hazards. Adaptation investment in logistics appears to ensure general resilience rather than hazard-specific protection.





Figure 14: From heat to landslides – how respondents prioritize seven climate hazards.

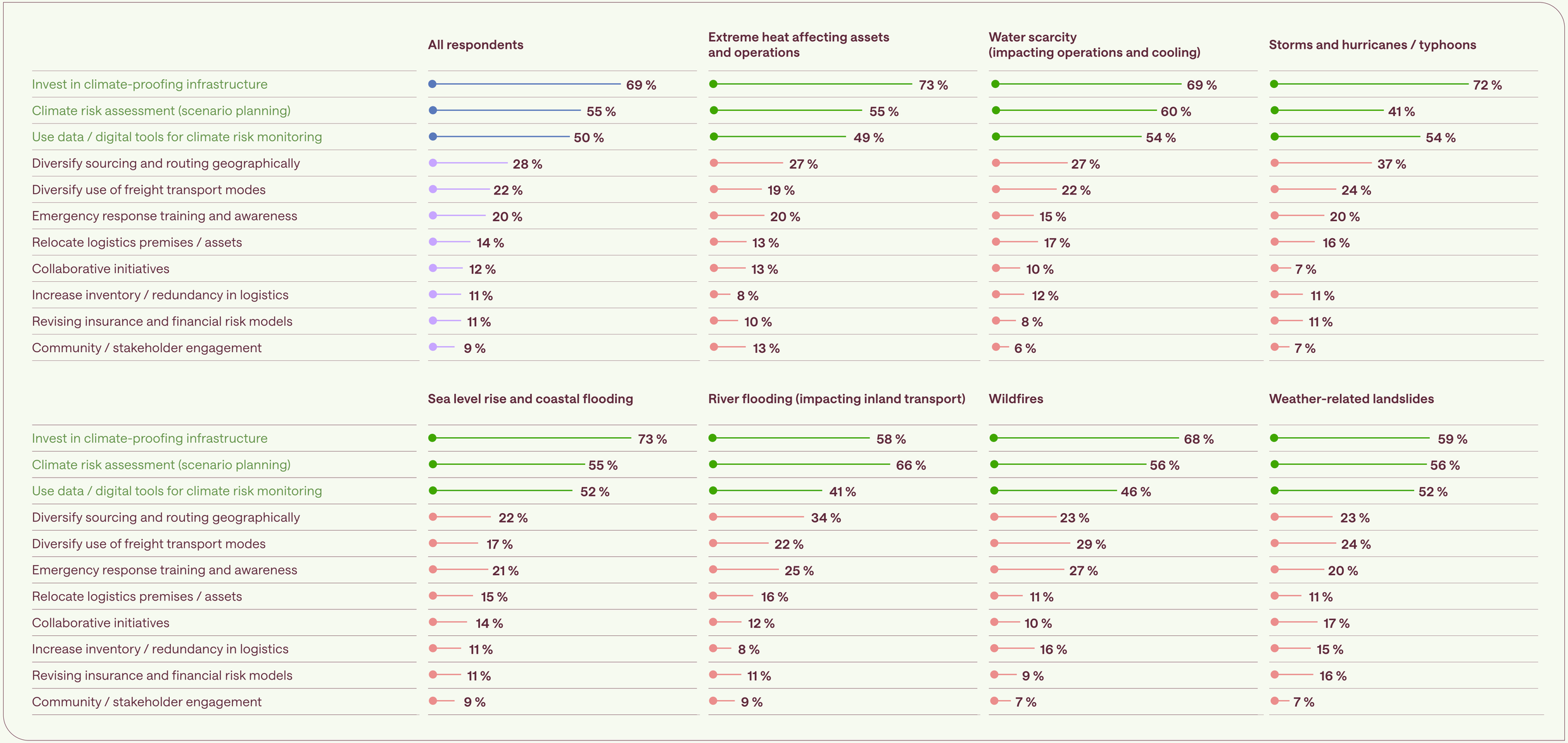
Note

Respondents rated how pressing they consider each of the climate risks to the current logistics system (from 1 = most to 7 = least pressing). The figure ranks the converted role; a higher mean indicates higher urgency.

Figure 15: Different risks, same solutions.

Note

Respondents are grouped by the climate risk they ranked as most pressing. Bars show the share of each group placing a measure among their top three.



Recommendations for policymakers

Raise the profile of logistics in national adaptation strategies

Relative to their economic exposure, freight transport and warehousing appear underrepresented in National Adaptation Plans, Nationally Determined Contributions, and related resilience strategies. As the “neglected child” of logistics decarbonization, the sector simply does not receive sufficient policy attention.[25] By giving logistics more attention, policymakers can make this essential sector more visible and increase its chances of appearing in budgets. For example, Australia released an action plan with activities for 2025 to 2029 as part of its National Freight and Supply Chain Strategy in which resilience is a key action area.[26]

Scale and target adaptation financing

Climate-resilient infrastructure is expensive, but the cost of inaction is likely to be higher. Governments and international development finance institutions should scale up dedicated adaptation financing before disruptions occur, drawing on existing instruments such as the Climate Investment Funds and the Green Climate Fund. Findings like those presented here can help identify areas for further assessment, and funding should be allocated based on physical climate risks, network importance, and local adaptation capacity.

Share adaptation strategies, regulations, and experience internationally

The risks our respondents identify are common across regions, and the responses should avoid reinventing the wheel. Policymakers should therefore ensure that strategies, regulations, and operational experience are shared internationally.



Sophie Punte

Co-founder and CEO, Life-Links

Policymakers and companies will find real value in this report’s global evidence on climate action in logistics, from reducing emissions to adapting to physical climate risks. It rightly calls for adaptation finance to be scaled and targeted at the most vulnerable elements of transport and logistics systems, such as road freight in Africa. Strengthening these systems can benefit communities, companies, countries and consumers alike.

Recommendations for managers

Professionalize climate risk assessment and keep it live

Companies should adopt structured and consistent approaches to climate risk assessment. This means first assessing their inherent risk, that is, how exposed operations are to climate hazards before any adaptation measures are taken into account. Second, they should assess their residual risk, to establish how much of that exposure remains once those measures are in place. Crucially, companies should be realistic about how well their adaptation measures actually work. Respondents rank scenario planning and digital monitoring as effective measures. Drawing, for example, on hazard data, vehicle telemetry, and weather feeds for transport routes helps keep climate risk assessment live rather than updating it only once a year.

Make the cost of non-adaptation visible in financial planning

As in the policy realm, visibility matters. A key task for managers is to make the cost of non-adaptation visible in financial planning. In practice, this means quantifying what heat, storm, and water-scarcity events would cost in idle fleets and closed terminals, delayed shipments and contract penalties, and insurance premiums, and setting those potential losses against the cost of adapting, much as recent reporting frameworks now require.

Wire climate and adaptation risk assessment into capital allocation

Applying an internal carbon price, or at least a shadow price, is a first step toward quantifying climate-related risks. Companies should use physical climate risk assessments to compare investment options, including potential damage, business interruption, and the costs and benefits of adaptation.

Build resilience into the replacement cycle

Resilience is cheapest when built into the replacement cycle, so companies should set climate-resilience specifications for renewals and upgrades: cooling and insulation against heat, roofing, drainage and backup power against storms, water recycling at wash and maintenance facilities. Timing matters because assets are long-lived: trucks run 8 to 15 years, vessels 25 to 30, and buildings far longer, so what is commissioned now must withstand the conditions expected across its whole lifecycle.

Develop contingency plans for severe climate-related disruptions

Both policymakers and managers should develop contingency plans for when severe climate-related risks materialize and—despite adaptation measures—disrupt the transport of goods and business operations. That could mean identifying the sites where relocation or major physical reinforcements are the only solution and putting them on a planned timeline, preparing alternative routes, carriers and terminals, defining activation triggers and decision rights in advance, and monitoring insurance contracts and pricing for the most exposed sites. For example, BASF and Stolt Tankers have developed vessels designed to operate during extreme low-water conditions to counter river droughts.[27]





6

Clear direction, different paths: the outlook for sustainable logistics

Clear direction, different paths: the outlook for sustainable logistics

This 2026 Global Sustainable Logistics Survey, based on the views of 1,085 logistics professionals from 64 countries, challenges the common portrayal that managers on the supply and demand side hold differing views on which approaches work, how effective current solutions are, and what should be done next. Our results suggest that the sector is, in fact, largely aligned.

Shippers and logistics service providers largely agree on which sustainability solutions work and why. Feasibility appears to be the factor most closely associated with adoption, and our results point to several barriers to it: the business case, infrastructure, regulation, technology maturity, and internal capabilities. Some solutions are seen as much less feasible than solutions that companies can implement on their own: solutions that are capital-intensive, that depend on coordination among multiple stakeholders or on public policy and infrastructure, that are limited by geography, or that require rethinking traditional supply chain models. Yet even the feasible solutions that companies can implement on their own are probably far from fully implemented: managers therefore have considerable room to act within their own operations. There are also opportunities to do more to shape the conditions they depend on by working with policymakers, infrastructure providers, and supply chain partners.

Progress across all of these solutions risks being inhibited by skills shortages – shortages that seem most severe where they matter most. Emissions calculation and reporting, sustainable transport and technology knowledge, and digital tools for sustainability are clear examples. These skill shortages differ sharply from one subregion to the next, but overall seem particularly concerning because logistics professionals expect profound changes to logistics systems which the sector is not equipped to deal with.

Looking ahead, there are good reasons to expect the uptake of sustainability solutions to accelerate. Many low-carbon technologies are becoming cheaper as production volumes grow. Falling battery costs and technological advances are steadily improving the economics of electric trucks, and as a result, these have also become far more widely available in recent years. Why should the same not happen with other technologies? Sustainable aviation fuel, for example, is currently produced in negligible quantities, and most of what exists is consumed by passenger flights rather than freight. Nonetheless, if production capacity expands, sustainable aviation fuels too may become less expensive. Moreover, economic pressure may support scaling: recent volatility in oil and gas prices has once again highlighted how dependent much of the logistics sector is on fossil fuels and how geopolitical events directly impact companies' bottom lines. As a result, companies without a medium-term transition plan for their fleets will face growing transition risk. In turn, investments that reduce their carbon exposure become more attractive. Solutions that are currently considered to lack feasibility today may come within reach of many more companies in the coming years.

Beyond falling costs and economic pressure, another factor may influence adoption. Financial and environmental benefits of sustainability solutions are increasingly aligned. Our results show that the most widely adopted solutions are those that save money as well as emissions: this win-win logic may now materialize beyond route optimization and operational efficiency. In a growing number of cases, electrification benefits both the climate and the balance sheet, and upcoming carbon pricing schemes will strengthen the business case further. As more sustainability solutions are driven by aligned financial and environmental benefits, competitive pressure itself may accelerate their scaling. Companies that wait now risk being left with carbon-exposed assets that lose value before the end of their useful life.

There are also reasons for caution, however, particularly for solutions that require major infrastructure developments, such as low-carbon fueling & charging infrastructure and rail & intermodal decarbonization. These solutions do not become cheaper simply because more of them are built. Instead, they often depend on public planning, long approval processes, and sustained investment. So far, there are few signs that they are scaling at the same pace as vehicle and energy markets. This creates a risk of mismatched scaling: the adoption of low-carbon vehicles and alternative fuels has the potential to scale fast, while the networks they need might develop far more slowly, since building and expanding them depends on public planning and investment. Left unaddressed, this mismatch would make infrastructure the bottleneck of the coming decade.

"Our report offers a range of recommendations. The path forward will not look the same everywhere; not every measure will fit every context, and not every measure will deliver the same benefit for the same effort."

Adaptation may prove even more difficult. Most logistics professionals see adaptation and decarbonization as quite closely aligned, and the cost of doing nothing is likely to become easier to quantify. Yet fewer than half consider current adaptation efforts adequate. As climate impacts intensify, the residual risk that remains even after adaptation measures are in place increases, as does the uncertainty about how quickly climate change will progress. Adaptation measures must therefore be implemented faster to reduce exposure and vulnerability to the physical impacts of climate change. Against a backdrop of economic strain and geopolitical tension, keeping the focus on implementing the right measures quickly will remain a challenge for policymakers and managers alike.

Our report offers a range of recommendations for both groups. The path forward will not look the same everywhere; not every measure will fit every context, and not every measure will deliver the same benefit for the same effort. Asia, South America, and Europe, for example, start from different positions. Their infrastructure, geography, regulation, and skills differ, as do the climate risks they face. Industries and transport modes will also move at different speeds.

But the direction is clear and common across regions, and across providers and users of logistics services. Public budgets and political attention are limited, so policymakers should weigh these options and focus on areas where solutions are effective, but blocked by barriers that only they can remove, for example, complicated permitting and approval procedures. Managers, for their part, should not wait for a complete policy framework before acting. And both should work towards intensifying the development of skills in sustainable logistics. No new truck, optimization tool, emissions report, or climate risk assessment delivers its full value without people who know how to use it. Scaling sustainability solutions depends on a well-trained workforce.

As the UN Decade of Sustainable Transport (2026 – 2035) begins, supported and informed by the publication of this report, we will repeat the Global Sustainable Logistics Survey in the coming years to track how solutions, skills, and adaptation efforts develop over time; and whether the scaling of sustainability solutions accelerates as these results suggest.

The heat in Delhi, the stranded train in Ontario, and the empty barges on the Rhine have already been followed by the next climate-induced disruptions. Freight will keep moving, as it always has. The question is what the conditions will be and whether a state of constant disruption will be the 'new normal'. What the findings and landscapes in this report make clear is what is at stake—and how much a logistics sector that reduces its emissions and prepares for a changing climate can still protect.



Survey design and methodology

The 2026 GSLS represents the first wave of a longitudinal, multi-year research initiative supporting the UN's Decade of Sustainable Transport (2026-2035). It provides a global picture of logistics, comprising freight transport and warehousing; passenger transport is not included. Repeating the survey in subsequent years will allow us to track how perceptions, capabilities, and practices in logistics develop over the course of the Decade.

The questionnaire, the overall survey structure, and the classification of sustainability solutions and skills were developed and refined together with the GSLS Advisory Board, whose members contributed expertise from industry, policy, and academia.

Respondents rated each sustainability solution on three dimensions: effectiveness, feasibility, and stakeholder expectations (see box). This allowed us to distinguish between solutions that are considered effective but hard to implement and those that enjoy broad stakeholder support but are seen as having limited impact.

Sustainability solutions - taxonomy of dominant factors

The section on sustainability solutions is inspired by Ajzen's (1991)[2828] theory of planned behavior, which argues that planned behavior - in our case the adoption of sustainability solutions - can be explained by three dominant factors:

- a person's positive or negative evaluation of a given behavior, which we label solution effectiveness;
- a person's belief about how easy or difficult it would be to carry out the behavior, which we label feasibility, and
- a person's expectation of social pressure from important stakeholders, which we label stakeholder expectations.

The questionnaire comprised 48 closed questions, primarily Likert-scale and ranking items. It was administered as an online survey and was offered in 13 languages: English, German, Spanish, French, Arabic, Bahasa Indonesia, Portuguese, Urdu, Mandarin, Hindi, Swahili, Turkish, and Vietnamese. We cross-checked translations to ensure that the terminology used for solutions and skills remained consistent across language versions.

We collected data through three channels to reach both professionals who are actively engaged in sustainability debates and those who are less visible in such networks:

- snowball sampling among logistics professionals based on an open call for participation,
- computer-assisted telephone interviews (CATI),
- online data collection platforms.

As an incentive to participate, we donated €1 to the Malala Fund, a non-profit organization supporting girls' education, for every completed response.To ensure that respondents had sufficient expertise in logistics, we included several control questions. Filtering questions at the beginning of the survey confirmed that all respondents held a professional role in the logistics industry and had sufficient proficiency to answer the substantive questions; respondents who did not meet these criteria were screened out.

We sought to collect a sufficient number of responses from all 17 UN Subregions. Target numbers per subregion were balanced by population, carbon emissions, and economic and trade indicators. We excluded five subregions from the regional analysis because we were unable to gather responses from Central Asia, Melanesia, Micronesia, and Polynesia; the number of responses from Northern Africa was too small to report (six responses). The report also does not include Russia (classified as part of Eastern Europe) because we did not receive answers from Russia. Responses cover 12 UN subregions, which together represent most of the world's economic output, emissions, and trade. Regional results may partly reflect different response styles.

The report is based on descriptive statistics, summarizing and describing the sample. We do not use statistical tests or inferential tools to test formal hypotheses. Regional analyses were conducted at the continent and subregional level. We analyzed the data with the support of Advanced Impact Research GmbH.

We interpreted the results and derived industry and policy recommendations together with the GSLS Advisory Board, SLOCAT Partnership on Sustainable, Low Carbon Transport, and several additional industry experts, who reviewed the results and helped us qualitatively to assess their practical implications for policymakers and managers on both the supply and demand side of logistics.

The full report is available in English, with summaries of the report subsequently being made available in French, German, Spanish, Mandarin, and Arabic. The data will be made available to researchers in early 2027.

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CSLS
Center for Sustainable Logistics and Supply Chains

About the Center for Sustainable Logistics and Supply Chains (CSLS)

The Center for Sustainable Logistics and Supply Chains (CSLS) at Kühne Logistics University (KLU) in Hamburg is an independent research center dedicated to improving the sustainability of global logistics operations and supply chains. The center builds on KLU's strong track record of logistics-focused research around environmental sustainability, leveraging the partnership and funding from Kuehne+Nagel, one of the world's largest logistics companies. The CSLS focuses on three themes: decarbonizing logistics, closed-loop supply chains, and corporate sustainability. Its interdisciplinary team publishes in leading academic journals, develops sustainability courses and innovative teaching formats across KLU's degree and executive programs, and works closely with companies, policymakers, and NGOs. Through events, industry collaborations, and public outreach, the CSLS aims to advance knowledge on how supply chains can be managed more sustainably and to raise awareness of the scale and urgency of this challenge.

Kühne Logistics University is a leading private, state-recognized, international university based in Hamburg and Saigon. Supported by the Kühne Foundation, KLU empowers future leaders to think and act with an Operations Mindset – analytical, data-driven, and solution-oriented. Ranked among the top five percent of business schools worldwide (AACSB-accredited), KLU offers high-quality degree programs in Business and Management, Business Analytics and Data Science, as well as Logistics and Supply Chain Management.

CLIMATE CENTER
by Kühne Foundation

About the Kuehne Climate Center (KCC)

The Kuehne Climate Center works on transforming logistics from a major source of emissions into the backbone of a resilient, low-carbon society. As a subsidiary of the Kühne Foundation, it leverages the foundation's global logistics expertise and network to drive the much-needed logistics transition. As an operational non-profit organization the KCC works on the decarbonization of global freight and supply chains, as well as on unlocking logistics for the industrial transformation and resource management. It does so by shaping economically viable pilot projects for the private sector and actionable insights for decision makers, in corporate and public policy contexts. The ambition is to create success stories of systemic change, which have the potential to scale.

Founded in 2024, the Climate Center is building ecosystems for transformation with an international team from diverse disciplines. The KCC team works globally, with a particular focus on regions that are especially vulnerable to climate change and need to manage substantial economic growth in a climate-compatible way. It relies on working with trusted international partners and currently has offices in Hamburg, Germany; Nairobi, Kenya, and Dar es Salaam, Tanzania.

United Nations
Decade of
Sustainable Transport
2026–2035

About the United Nations Decade of Sustainable Transport (2026–2035)

The United Nations Decade of Sustainable Transport (2026–2035) is a global initiative to put sustainable transport at the center of the international development agenda. Launched on 10 December 2025 by the UN Department of Economic and Social Affairs (DESA), the Decade raises the profile of sustainable transport in multilateral arenas and highlights its importance for people, the planet, and sustainable development at large. It is guided by an Implementation Plan developed with the UN Regional Commissions, Member States, and other stakeholders. The initiative covers all modes of transport, including road, rail, maritime transport, and aviation, and sets out six focus areas to align policy, finance, technology, and data with sustainable transport goals.

To turn this agenda into action, DESA invited Member States and other stakeholders to make voluntary commitments. At the launch event, 82 Sustainable Transport Action Commitments from around the world were unveiled, backed by billions in financial resources. The GSLS Survey is one of these commitments. It provides a global snapshot of progress toward sustainable logistics, identifies barriers to progress, and promotes discussion to inform further action. The survey contributes to two of the Decade's six focus areas: advancing low- or zero-carbon, resilient, and environmentally sound transport systems, and enhancing efficiency while promoting sustainable connectivity and logistics.

Acknowledgement & Partners

We'd like to thank the following individuals for their support and for providing feedback
Akshay Jamdade, Andres Felipe Rey, Carly Gilbert-Patrick, Genevivie Ankunda, Prof. Dr. Gordon Wilmsmeier, Prof. Dr. Hanno Friedrich, Nikola Medimorec, and Ramón van Almsick.

We received support for translations from the following colleagues
Anju Anju, Ankita Singh, Betina Sachsse, Dedi Palamea, Dounia Chlyeh, Emre Ertas, Erica Vieira, Hooria Sajjad, Jingzhu Li, Juma Mzee, Mathieu Bazaud, Mehamed Noufel, Sun Shizhuo, Thuong Ngo, Ulysse David, Valentina Munoz

Thanks to our supporting partners
UK Foreign, Commonwealth & Development Office (FCDO), Smart Freight Centre (SFC), SLOCAT Partnership on Sustainable, Low Carbon Transport), The European Freight and Logistics Leaders' Forum (F&L), RIDE Program, Bundesvereinigung Logistik e.V. (BVL), Confederação Nacional do Transporte (Brazil), Conecta Logística, Colombian Embassy in Germany, Logistik-Initiative Hamburg e.V. (LIHH), National Business Association of Colombia (ANDI), Finnish Association of Purchasing and Logistics (LOGY), Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH.

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Suggested Citation
Meuer, J., Petersen, M. (2026): 2026 Global Sustainable Logistics Survey – Report.
Center for Sustainable Logistics and Supply Chains at KLU Hamburg & Kuehne Climate Center.

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Version 1.0

Last Update: October 1, 2026

