MODULE 1 | 1.3.3

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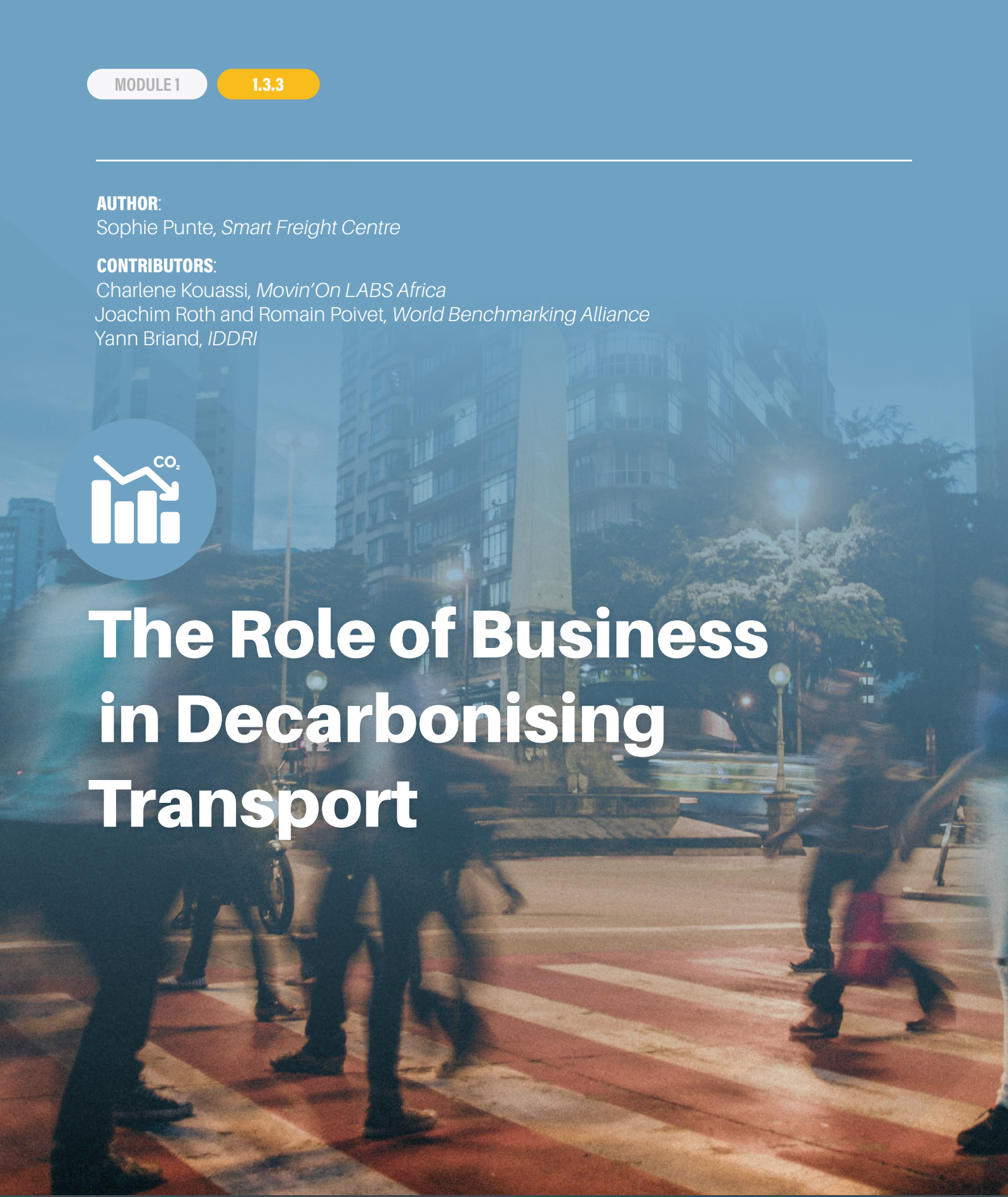


The Role of Business in Decarbonising Transport

SLOCAT Partnership on Sustainable, Low Carbon Transport

Transport, Climate and Sustainability
Global Status Report - 3rd edition

Key findings

- To decarbonise transport, various types of businesses need to be involved, including transport manufacturers, public and freight transport service providers, and companies that use transport.
- Although businesses are demonstrating increasing climate leadership, collectively this remains insufficient to achieve a pathway consistent with limiting global temperature rise to below 1.5 degrees Celsius (°C).

Ambition

- While the climate ambition of transport manufacturers is increasing, targets are not enough to achieve a 1.5°C pathway.
- Transport-specific targets mostly focus on zero-emission vehicles, charging infrastructure, and renewable energy for shipping and aviation. Very few companies have set targets across all their business areas and markets and have committed to phasing out fossil fuels.
- A majority of transport companies have set goals and targets for reducing greenhouse gas emissions, but ambition must be raised. As of 2022, more than 58 countries and one-fifth of the world's largest companies had committed to reaching carbon neutrality.
- Transport companies need to commit to phasing out fossil fuels, as the transport sector relies on oil-derived products for over 90% of its energy, more than any other sector.
- Over 2,400 companies covering more than a third of the global economy's market capitalisation – including 43 transport manufacturers and 124 transport service providers – have approved science-based targets for reducing emissions.

Action

- Transport manufacturers have made significant progress on electric road vehicles, alternative fuels for ships and airplanes, and digital solutions.
- To reach the 1.5°C target, the global automotive sector needs to increase annual production of zero-emission vehicles to 52% of total vehicle production in 2029.
- Innovation has occurred in hard-to-decarbonise sub-sectors, such as zero-emission trucks, ships and planes; low carbon fuels; batteries and other technologies; and infrastructure. While policy has played a role, manufacturers also have responded to customer demand and collaborated with suppliers of infrastructure, fuel and batteries, and other technologies.
- A gap remains between transport companies' ambitions and the quality of their climate transition planning, with vast potential for improved action. Many companies may not have determined actions or allocated funding to meet their targets.
- Globally, transport companies under-perform on the social aspects of climate and sustainability, including human rights, just transition, decent work and ethical conduct, even though these are critical for the successful implementation of a climate transition plan.
- Companies have taken actions related to their own fleets, including electric vehicles, biking and working from home.
- Shippers hold the key to making structural changes to freight transport by shifting to low carbon modes and reducing demand.
- Many companies have shown greater advancement in general energy-related measures than in tackling transport.

Advocacy

- Businesses have been more supportive of infrastructure and incentives for alternative fuels and zero emissions, and more opposed to carbon dioxide targets, standards and accelerating the phase-out of internal combustion engines and fossil fuels.
- Many auto manufacturers and aviation companies advocate for climate action while simultaneously lobbying to weaken pro-climate policies. Automotive workers show greater unity on lobbying for a Just Transition.
- Transport companies' inconsistent policy advocacy risks delaying the climate action they need to meet their own emission reduction targets.
- Policy advocacy to accelerate the uptake of electric vehicles has been strong among companies that have fleets and use transport services.
- Industry associations that cover multiple sectors but also cover transport have tended to take a more conservative approach to climate policy advocacy.

Accountability

- Disclosure of companies' climate-relevant information is becoming mainstream – with over 18,000 companies disclosing to CDP in 2022, including 419 transport manufacturers and 930 transport service providers – but accountability gaps remain.
- Weaknesses include a lack of climate expertise at the board level in companies, and of financial incentives tied to emission reductions.
- The new ISO 14083 standard on quantification and reporting of greenhouse gas emissions from transport operations is expected to increase and improve disclosure.
- Little is known about the disclosure of companies (other than transport manufacturers and companies that provide transport services) on their transport emissions, targets and emission reduction efforts.

Opportunities to accelerate industry action

- Improving business climate leadership can help prevent greenwashing, as leaders must follow through on their ambition with credible action, advocacy and accountability.
- Companies can be leveraged for wider system change to complement technological changes and in responding to climate impacts.
- Companies can enhance their collaboration with other stakeholders in climate and sustainability, working with all partners in the value chain, supporting just transition pathways for transport and joining initiatives that truly help deliver the transition.

Overview

The private sector plays an essential role in climate action, as roughly 100 companies around the world were responsible for 71% of the global greenhouse gas emissions between 1998 and 2015.[1] Worldwide, a growing number of companies across all sectors, including transport, have committed to reducing their emissions.[2]

To realise transport decarbonisation, a wide range of businesses need to be involved, including original equipment manufacturers (i.e., transport manufacturers), providers of public and freight transport services, as well as companies that use transport. The contributions of these businesses can be assessed through the framework of the "4 A's of Climate Leadership" (see Figure 1).[3]

Across these areas, key collaboration and climate leadership opportunities exist to accelerate businesses action to decarbonise transport. The key private stakeholders in transport span businesses of all sizes, from global and national corporations, to state-owned enterprises, to small and medium enterprises, to individual contractors. Governments, civil society and research organisations, and customers other than companies all have an influence on these businesses (see Figure 2).

Businesses and companies can support conditions that enable transport decarbonisation at scale, by pursuing activities such as capacity building and awareness raising among company management and staff, technicians and professionals, policy makers and the public; and collaboration among businesses and with government, civil society and research.

FIGURE 1. 4 A's of Climate Leadership by the We Mean Business Coalition

Source: See endnote 3 for this section.

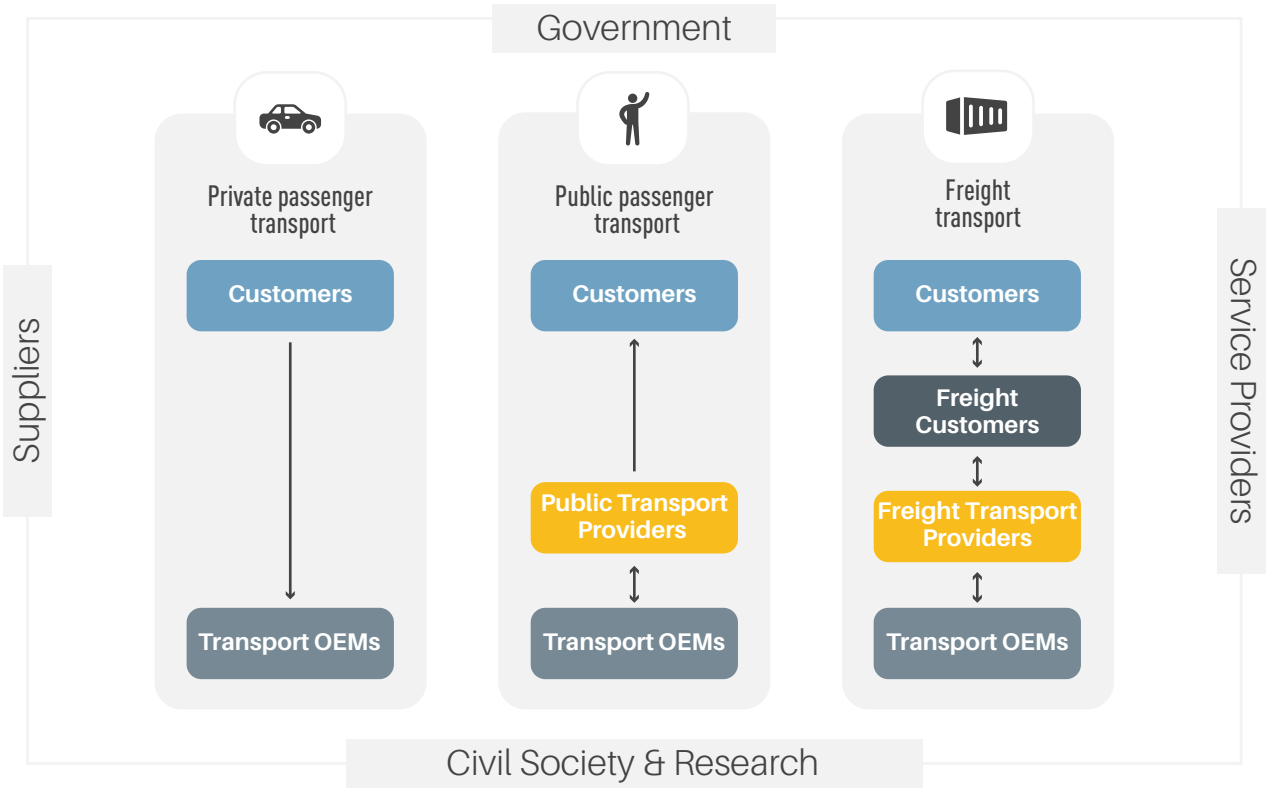
Ambition
Commit to net zero and set science-based targets in line with Paris Agreement goals and a just transition

Action
Take concrete action across the business value chain and involve employees, suppliers and customers

Advocacy
Speak up to secure wider change through ambitious government policy and aligned trade associations

Accountability
Disclose emissions, progress against targets and plans, risk management, policy engagement and governance

FIGURE 2. Transport stakeholders for passenger and freight transport



KEYWORDS

Customers
consumers, companies, organisations

Transport OEMs
original equipment manufacturers of vehicles, aircraft and marine/inland vessels and their engines, components and other equipment

Public transport providers
providers of public bus, metro, rail, taxi, bike, metro, ferry, aviation services

Freight transport providers
carriers, freight forwarders, logistics service providers covering all transport modes

Customers of freight
"shippers" including businesses, government and other organisations

Government
multilateral, national, state, local government and affiliated organisations

Suppliers
fuel/energy, technology, utilities, information technology, construction, other

Service providers
financiers, insurers, auditors, consultancies, other

Civil society & research
non-profit organisations, Indigenous groups, labour unions, professional associations, foundations, research institutes, universities

Business efforts to decarbonise transport

Different businesses – including transport manufacturers, public and freight transport providers, and companies that use transport – are taking different steps to decarbonise transport and to reduce emissions to contribute to international goals. **Although businesses are demonstrating momentum in climate leadership across the 4 A's, collectively this remains insufficient to achieve a pathway that is consistent with the goal of keeping global temperature rise below 1.5 degrees Celsius (°C).**[4]

Transport manufacturers

Original equipment manufacturers include manufacturers of vehicles, aircraft, and marine/inland vessels, as well as their engines, components and other equipment. These transport manufacturers are responsible for providing zero-emission solutions at scale to other business stakeholders.

While the climate ambition of transport manufacturers is increasing, targets are not ambitious enough to achieve a 1.5°C pathway, especially for land transport, shipping and aviation. Moreover, regional differences in these commitments are apparent, especially for medium- and heavy-duty trucks and buses.[5]

Ambition

Transport-specific targets tend to focus on zero-emission vehicles, charging infrastructure, and renewable energy for shipping and aviation. Very few companies have set targets across all of their business areas and markets and have committed to phasing out fossil fuels.

- Of the 114 transport manufacturers that had joined the Science Based Targets initiative (SBTi) as of March 2023, 62% (71 companies) had committed to targets to reduce greenhouse gas emissions, and 38% (43) had approved targets, with more likely to follow once the initiative releases sector-specific guidelines.[6]
- In a global benchmark of 30 auto manufacturers in 2021, 56% (17 companies) had set targets to reduce emissions and 83% (25) had set targets to increase sales of light-duty low carbon vehicles, including battery electric, fuel cell electric, and plug-in hybrid cars and vans.[7] However, no company had targets covering all of its business areas and fully aligning with the International Energy Agency's (IEA) 1.5°C pathway for light-duty electric vehicles.[8]
- Ford, General Motors, Mercedes Benz Group and Volvo Cars have all announced plans to fully phase out internal combustion engine vehicles in the 2030s and to shift to manufacturing light-duty zero-emission vehicles.[9]
- By market share, as of 2020, 97% of manufacturers in Europe and 94% of manufacturers in the United States had committed to a complete transition to zero-emission vehicles, compared to 34% in China, despite Chinese dominance in electric vehicle manufacturing (see Figure 3).[10]

Nearly all of the world's major **aviation** industry associations and largest aircraft and engine makers have committed to achieving net zero carbon emissions by 2050, supported by accelerated efficiency measures, energy transition, and innovation across the aviation sector, in partnership with governments around the world.[11]

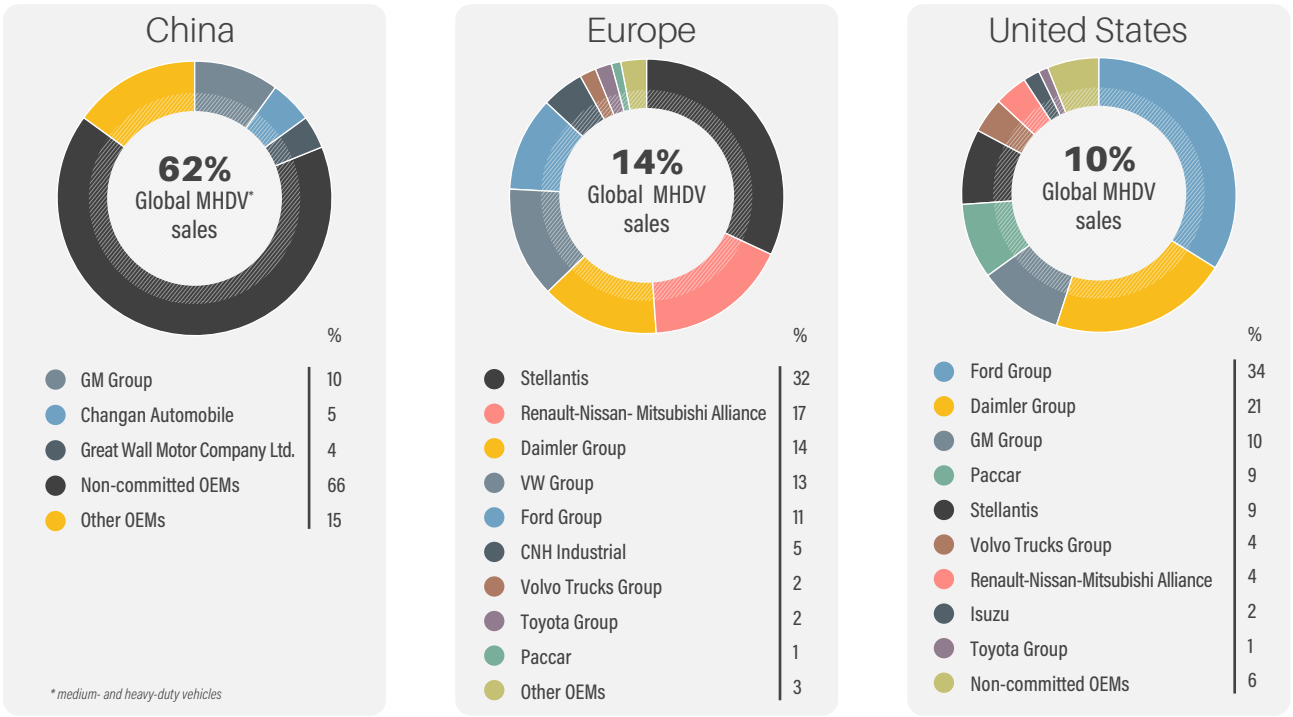
The global **shipping** industry, through the Getting to Zero Coalition, has committed to operating commercially viable zero-emission vessels by 2030, along with the associated infrastructure, with the goal of full decarbonisation by 2050.[12] The International Maritime Organization has targeted halving global shipping emissions by 2050 (from 2008 levels) and aimed to approve a revised greenhouse gas strategy in 2023.[13] Alignment with a 1.5°C pathway requires reducing emissions from international shipping at least 34% below 2008 levels by 2030 and achieving zero emissions by 2050.[14]

Weaknesses include a lack of climate expertise at the board level in companies, and of financial incentives tied to emission reductions for executives and employees. Of 30 benchmarked automotive companies, 90% (26 companies) had board-level oversight on climate change, but only 40% (12) had financial incentives tied to emission reductions for executives and 53% (16) had such incentives for employees; only 10% (3) had significant climate change expertise at the board level.[15] The benchmark also found that:

- Companies that have in place both financial incentives and board climate expertise, such as Renault and Volkswagen, scored higher for transition plans as well.

FIGURE 3. Regional market shares of original equipment manufacturers committed to zero-emission vehicles, 2020

Source: See endnote 10 for this section.



- Mahindra Group's Executive Chairman is also a board member of the UN Global Compact and has chaired the High-level Commission on Carbon Pricing and Competitiveness.
- Volkswagen established a sustainability board that includes a co-director for the Potsdam Institute for Climate Impact Research, a president of the European Green faction of the European Parliament, a founding director of the UN Global Compact and a former EU Commissioner for Climate Action.

Action

The strongest progress among transport manufacturers has been on electric road vehicles and alternative fuels for ships and airplanes, as well as increasingly on digital solutions offered by multi-modal transport companies.

To reach the IEA's 1.5°C target, the global automotive sector will need to increase annual production of zero-emission vehicles (battery electric and hydrogen) to 52% of total vehicle production in 2029 (see Figures 4 and 5).[16] Globally, electric vehicle sales (including plug-in hybrids) increased 55% in 2022 to exceed 10 million units, accounting for 14% of total vehicle sales *(see Section 4.2 Vehicle Technologies)*.[17] In low- and middle-income countries in Asia, such as India, electric two- and three-wheelers dominate electric vehicle sales.[18]

- Leaders in the automotive sector include BMW, Mercedes-Benz, and Tesla, whose production of light-duty zero-emission vehicles appears to be in line with the IEA's 1.5°C pathway requiring that at least 60% of car and van sales be zero emission by 2030.[19]
- Sport utility vehicles cancel out much of the expected emission reduction between 2022 and 2030 as their share of production is projected to increase from 41% in 2022 to 47% in 2029.[20]
- China is by far the largest electric vehicle market, accounting for 59% of global sales in 2022 and with one in four cars sold being electric.[21]
- Two- and three-wheelers (both passenger and freight) accounted for 95% of the estimated 430,000 zero-emission vehicles sold in India in the fiscal year ending in March 2022 – more than three times the number of the previous year.[22]
- Electric cars are rare in Mexico due to high upfront costs and a lack of charging infrastructure.[23]

Although minimal, some manufacturers have invested in additional measures to support the energy transition in vehicles, such as loans, leasing and sharing schemes for cars and scooters.

- Manufacturers that provided battery swapping and leasing services included Ample and Octillion Power Systems (United States), Gogoro (Indonesia), NIO (China) and Sun Mobility (India).[24]

Auto companies that produce electric buses and trucks, most of which are Chinese, have rapidly gained market share. At the start of 2023, 815 models of electric (battery or fuel cell) buses and trucks were available, up 34% from 2021 and 187% from 2019 (see Figure 6).[25]

- In 2022, the global **electric bus** stock reached 700,000 vehicles (battery electric), reflecting 3% of the worldwide bus fleet.[26] Nearly 66,000 electric buses were sold worldwide, representing 4.5% of all bus sales.[27]
- China again dominated electric bus sales in 2021, while sales in the European Union (EU) picked up due to national and municipal procurement targets as well as the EU Clean Vehicles Directive.[28]
- In Brazil, BYD's sales of electric buses increased greatly after the City of São Paolo mandated that all new public buses must be electric from 2022.[29] Renault launched new electric car models in combination with a Mobilize service focused on "Shift" solutions (i.e. actions to support a shift to more sustainable transport modes) and "Improve" solutions (i.e. actions to improve efficiency of transport modes).[30]
- **Electric truck** sales accounted for only 0.4% of total sales in 2022, resulting in 320,000 electric trucks on the roads in 2022.[31]

Innovation has occurred in hard-to-decarbonise sub-sectors, including on zero-emission trucks, ships and planes; low carbon fuels; batteries and other technologies; and infrastructure (see Table 1).[32] **While policy has played a role, manufacturers also have responded to customer demand and collaborated with suppliers of infrastructure, fuel and batteries, and other technologies.**[33]

For ships and airplanes, the emphasis has been more on alternative fuels than on zero-emission fleets. Sustainable aviation fuels (SAF) that can reduce CO_2 emissions from air travel up to 80% are expected to play a bigger role.[34]

- In 2018, Norway announced that only emission-free ships will be allowed to enter the country's two western World Heritage fjords from 2026, triggering Northern Xplorer to commission construction of a cruise ship that operates on hydrogen.[35]
- The US Inflation Reduction Act stimulates investments across decarbonisation technologies, while the EU's Alternative Fuels Infrastructure Regulations of March 2023 aims to fast-track the uptake of alternative fuels and vehicles.[36]
- SAF production reached at least an estimated 300 million litres in 2022, up 200% from 2021 (100 million litres), and more than 450,000 commercial flights used these fuels during the year.[37]
- However, SAF production in 2022 was still well below the 30 billion litres by 2030 and 450 billion litres by 2050 that are projected to be required annually under the 1.5°C and net zero pathways.[38]

FIGURE 4. Projected production of zero-emission vehicles versus targets set in the International Energy Agency's 1.5°C scenario, 2021-2029

Source: See endnote 16 for this section.

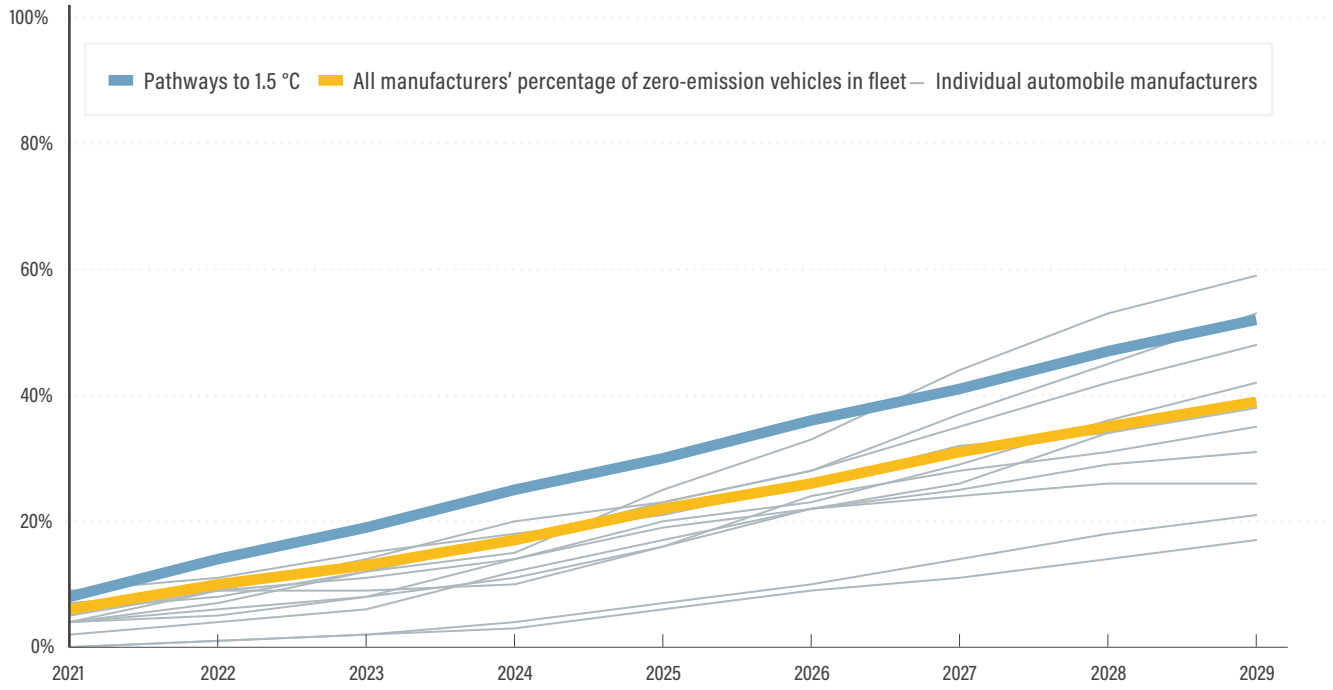


FIGURE 5. Projected composition of the global light-duty vehicle fleet, by technology, 2021-2029

Source: See endnote 16 for this section.

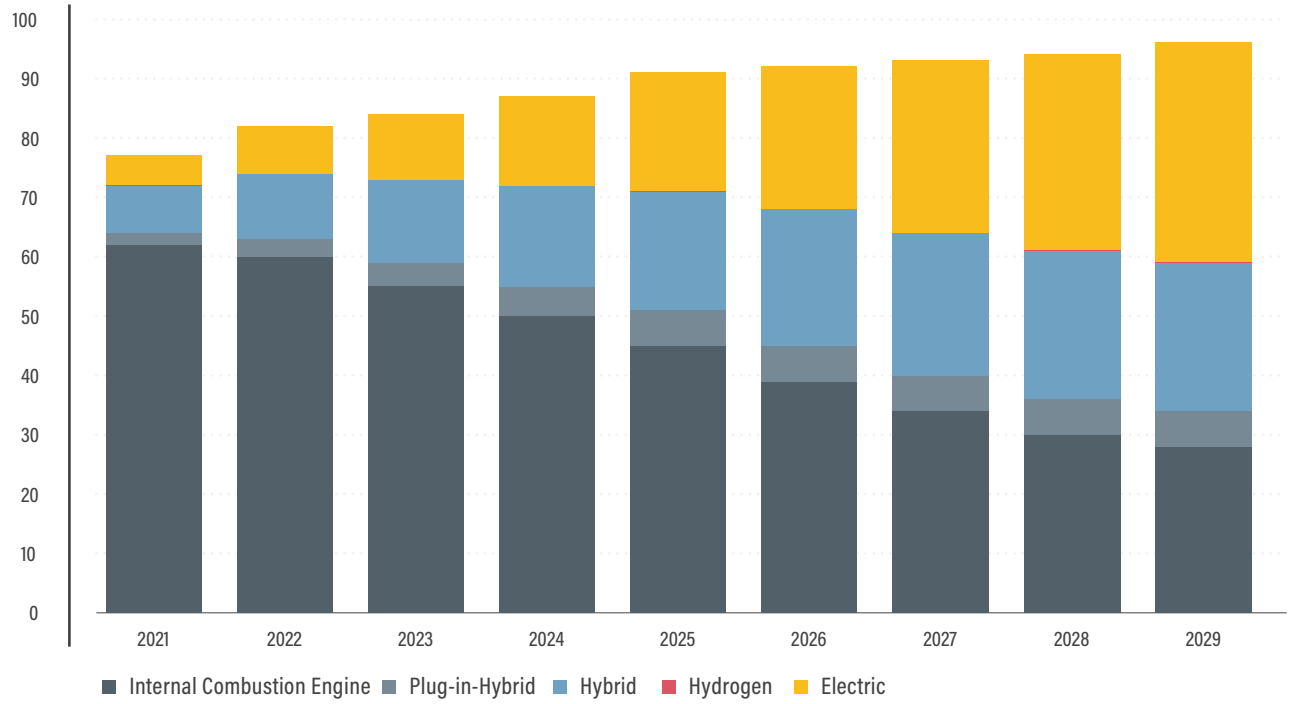


FIGURE 6. Global availability of zero-emission medium-and heavy-duty vehicles, by type, 2021-2023

Source: See endnote 25 for this section.

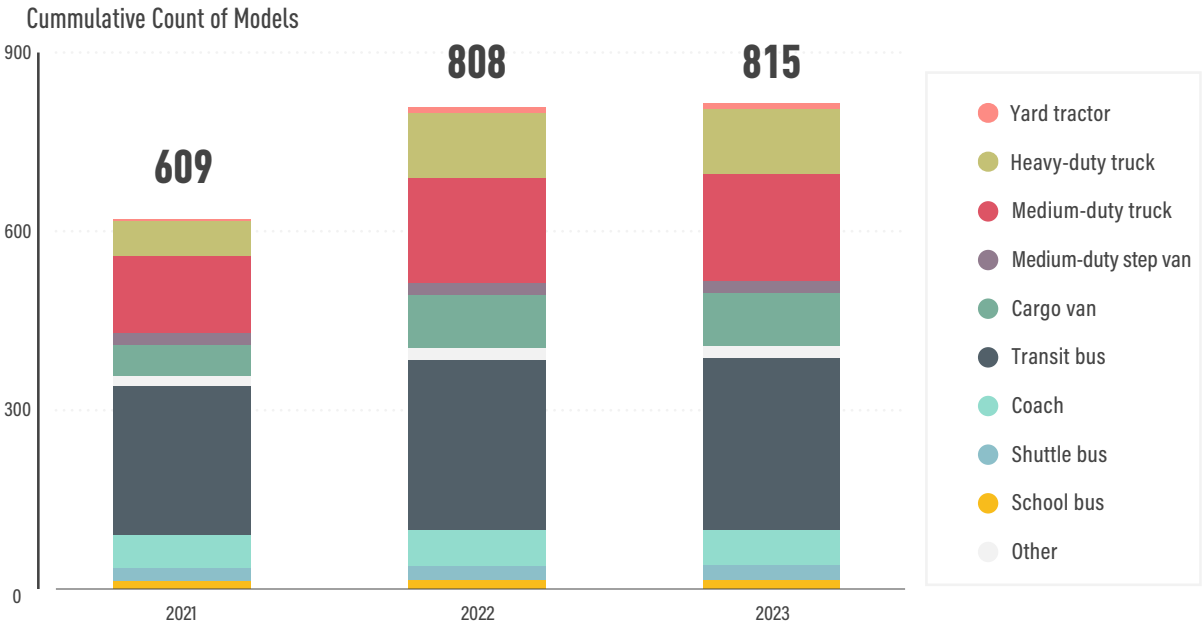


TABLE 1. Examples of innovation in hard-to-decarbonise transport sub-sectors

Source: See endnote 32 for this section.

Medium- and heavy-duty trucks

- Volvo and Man are providing battery-electric beer delivery trucks for Anheuser-Busch InBev to supply Belgian cafés.
- Volvo is testing battery-electric timber trucks with freight forwarder DFDS in Sweden.
- TEVVA is supplying UPS with battery-hydrogen delivery trucks for customers in UK cities.
- MG Motor India is manufacturing battery-electric trucks to transport finished steel rolls.
- Einride is deploying 300 electric trucks for Maersk's North American warehousing, distribution and transport business.
- Daimler, Volvo and Traton formed the joint-venture Milence to introduce public electric vehicle charging points for long-distance trucks in Europe.
- To overcome the investment barrier, Volta is introducing "Truck-as-as-Service" (TaaS), whereby customers lease an electric truck combined with charging and other services.
- Siemens, Vattenfal and Scania are collaborating on electric roads for trucks to charge on while driving, via overhead pantographs or electric coils on the road.

Shipping

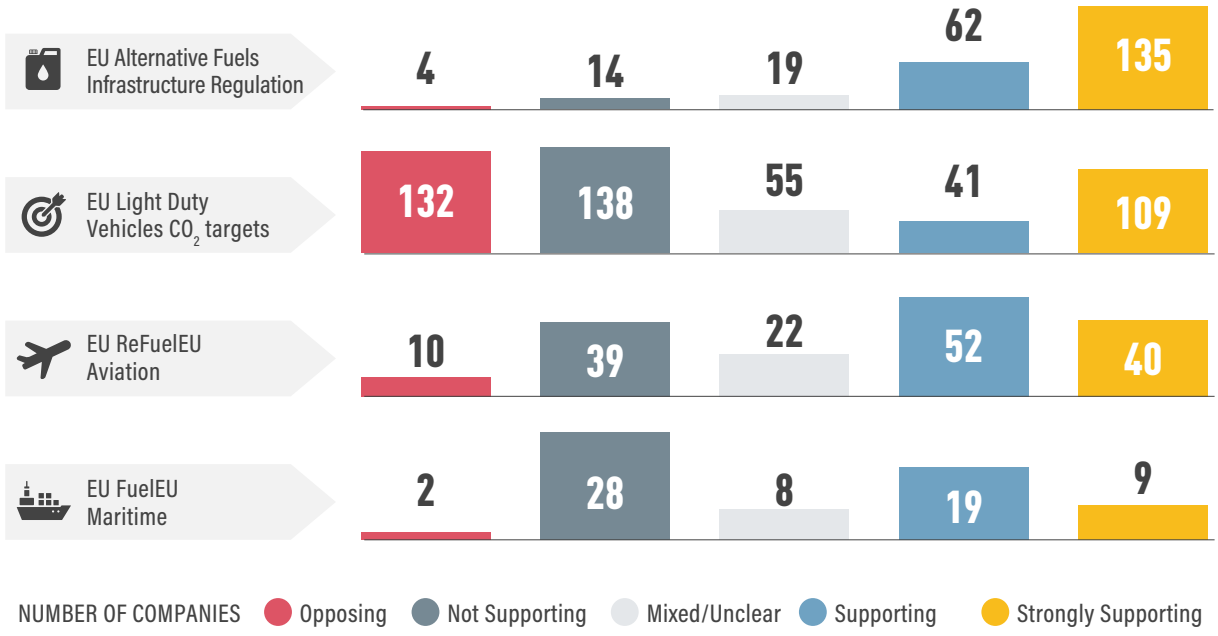
- AP Moller Maersk is exploring the use of methanol-powered ships.
- The E/S Orcelle ship for Wallenius combines electrical systems, wind and wave power, and fuel panels incorporating hydrogen.
- The container feeder vessel ZERO for GL Shipping Company is using liquid hydrogen and hydrogen-powered fuel panels.
- Futureship's zero-emission ferry concept for Scandilines uses hydrogen-powered fuel cells and Flettner rotors to capture wind.
- B9 Cargo Ships are operated through methane fuel (biogas) and wind-derived energy.
- White Orca is powered by wind and hydrogen and will carry aggregates from western to eastern Norway for HeidelbergCement Norway; on return voyages it will transport grain for Felleskjøpet AGRI.

Aviation

- Eviation Aircraft's has developed the electric passenger plane Alice.
- Universal Hydrogen launched a 40-person hydrogen-powered airplane.
- Pyka's autonomous electric Pelican Cargo plane is capable of transporting 400 pounds of cargo 322 kilometres in less than three hours.

FIGURE 7. Policy advocacy positions across transport modes in the EU, as of January 2023

Source: See endnote 39 for this section.



Advocacy

Businesses have been more supportive of infrastructure and incentives for alternative fuels and zero emissions, while being more opposed to carbon dioxide (CO_2) targets, standards and accelerating the phase-out of internal combustion engines and fossil fuels. As of January 2023, a mix of policy advocacy positions existed in the EU among manufacturers and others across transport modes, including strong opposition to CO_2 targets for light-duty vehicles (see Figure 7).[39]

A majority (57%) of 30 benchmarked auto companies in 2021 publicly supported climate policies.[40] Companies with high forecasted production of zero-emission vehicles have tended to be more positively engaged with climate policy as compared to companies that produce mainly internal combustion engine vehicles (see Figure 8).[41] **Meanwhile, many auto manufacturers from Europe, Japan, the Republic of Korea, and the United States, as well as aviation companies, have continued to advocate for climate action while simultaneously lobbying actively to weaken or delay pro-climate policies.**[42]

Companies have often lobbied via their industry associations, which tend to take a more conservative approach to climate policy engagement (see Table 2).[43] **Meanwhile, there is greater unity on lobbying for a Just Transition for automotive workers.**

- Volvo Cars left the European Automobile Manufacturers Association in 2022 over misalignment on climate goals, and other companies may follow, upon assessments of their respective industry associations.[44]
- In Europe, both non-governmental organisations and industry associations called for the EU to develop a Just Transition framework for automotive workers, arguing that "Alongside higher climate ambition, we want to see industrial transformation and innovation in Europe rather than deindustrialisation and social disruption".[45]
- The German government and several European organisations established the Just Transition in the European Car Industry project to support the sector in the just and climate-friendly transition.[46]

Accountability

Disclosure of climate-relevant information by companies is becoming mainstream – with more than 18,000 companies disclosing to CDP in 2022 – but gaps in accountability remain. In 2022, 419 transport manufacturers (including 251 automakers) responded to the 2022 CDP climate questionnaire, the results of which are used to inform investors and other stakeholders.[47]

FIGURE 8. Zero-emission vehicle production and climate policy engagement, by region

Source: See endnote 41 for this section.

The graphic below compares the climate policy engagement score (assessed by InfluenceMap) of major automakers with their forecasted percentage production of zero-emission vehicles by 2029 (InfluenceMap analysis of S&P Global Mobility data). The bubble size represents the relative proportion of vehicle production compared to other major global automakers.

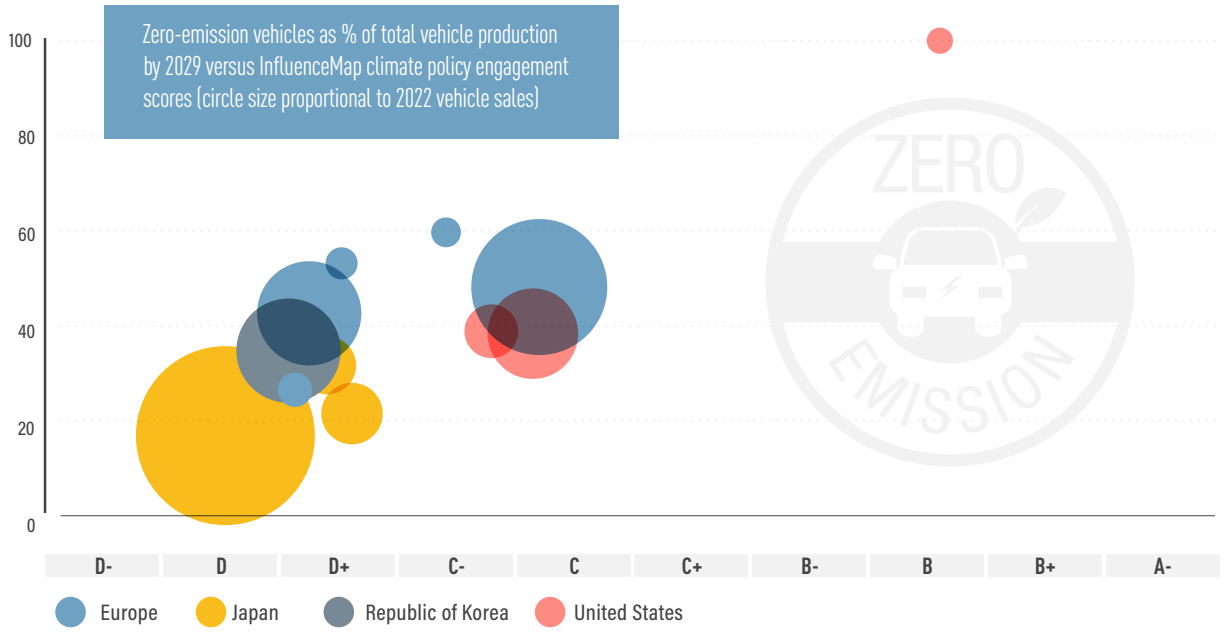


TABLE 2. Climate policy engagement among auto industry associations

Source: See endnote 43 for this section.

Auto industry association	Region	InfluenceMap rating	Engagement intensity
European Association for Electromobility (AVERE)	EU	B+	37%
European Automobile Manufacturers Association (ACEA)	Europe	C-	42%
Society of Motor Manufacturers and Traders (SMMT)	Europe	C-	17%
European Association of Automotive Suppliers (CLEPA)	Europe	D+	37%
German Association of the Automotive Industry (VDA)	Europe	D-	51%

Note: The rating (A+ to F) is a measure of how supportive or obstructive a member company's direct engagement is towards climate policy aligned with the Paris Agreement. Engagement intensity is a measure of the level of policy engagement by the company, whether positive or negative.

Providers of public and freight transport

Providers of public and freight transport include companies that provide public transport services, such as taxi, bus, rail companies and ferry operators, and companies that provide freight transport, delivery and logistics services including by road, rail, water and air.

Ambition

A majority of transport companies have set goals and targets for reducing greenhouse gas emissions, but ambition must be raised. As of 2022, more than 58 countries and one-fifth of the world's largest companies had committed to reaching carbon neutrality.[48]

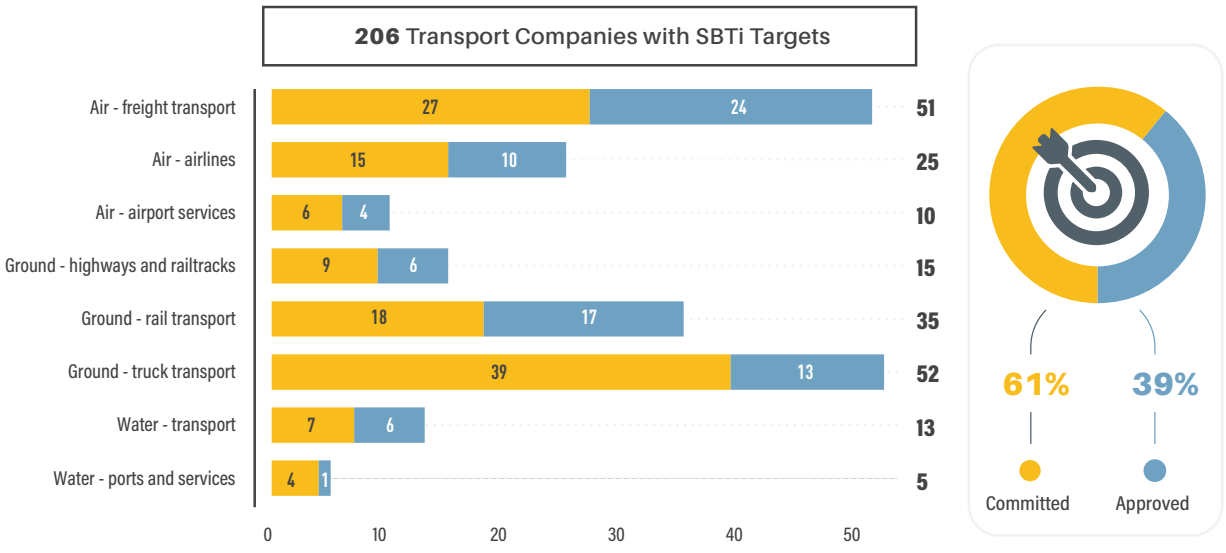
- As of March 2023, 206 transport companies had joined the Science Based Targets initiative (SBTi), of which 61% (125) had committed targets and 39% (81) had approved targets (see Figure 9).[49]
- However, a 2022 benchmark of 90 of the world's largest transport companies found that while 51% (46 companies) had set net zero goals, of those only 7% (6) had set interim targets between 2030 and their net zero year.[50]

A next frontier is for transport companies to commit to phasing out fossil fuels in the transport sector, which relies on oil-derived products for more than 90% of its energy and is more dependent than other sectors on the oil industry.[51]

- Of 90 benchmarked transport companies, only 7% (6 companies) have committed to phasing out fossil fuels: Deutsche Bahn, DSV, MSC Mediterranean Shipping Company, JD Logistics, NS Groep and ZTO Express.[52]
- Logistics firm DP-DHL has set a net zero target for 2050 as well as SBTi-approved 1.5°C-aligned targets for 2030, broken down between scope 1, 2 (42% reduction) and 3 (25% reduction) emissions; it has allocated EUR 7 billion (USD 7.5 billion), mainly for alternative fuels for air transport, expansion of the zero-emission electric vehicle fleet and climate-neutral buildings.[53]
- Dutch railway company NS Groep committed to both a net zero target and to phasing out fossil fuels, and has a business model for electrification and inter-modal transport to make this happen.[54]
- Singapore-based Comfortdel Gro, which offers car rentals, taxis, buses and light-rail transport, has SBTi-approved 1.5°C-aligned targets for scope 1, 2, and 3 emissions, backed by a detailed transition plan informed by scenario analysis; in addition, its board has climate change oversight and significant expertise related to the low carbon transition.[55]
- The UK's Royal Mail plc has set a 2045 new zero target along with executive incentives and a detailed low carbon transition plan informed by climate scenario analysis including a 1.5°C scenario.[56]
- Rail freight company ÖBB RCG has committed to carbon neutrality of its mobility sector by 2030 and of the entire company by 2040/50 through six key strategies; already, its rail operations in Austria, Germany and the Czech Republic are powered exclusively by green traction current.[57]

FIGURE 9. Transport companies with SBTi targets, by sector

Source: See endnote 49 for this section.



Action

A clear gap remains between transport companies' ambitions, as set in their targets, and the quality of their climate transition planning, with a variety of surveys and studies pointing to vast potential for improved action.

- Among the 930 transport services companies worldwide that disclosed to CDP in 2022, only 2 companies had climate transition plans that included all 21 of the indicators of a "credible plan"; meanwhile, 685 companies (74%) had plans that included fewer than 7 of the 21 indicators of a credible plan **(see Figure 10)**.[58]
- A transport benchmark that assessed 90 leading transport companies and the comprehensiveness of climate transition plans found that while most companies had elements of plans, half or less included specific targets, financial details or data around how to achieve them **(see Figure 11)**.[59]
- An assessment found that 2,000-plus transport companies scored an average of 48 out of 100 for environmental performance in 2022, with little difference between the scores of large companies (49.3) and small and medium-sized companies (47.7).[60]

Based on what companies have disclosed, it is evident that many may not have determined the actions or allocated the funding required to meet their targets. However, some companies have disclosed new business models and strategies that, if scaled across the sector, could have a significant impact.

- Of the 90 benchmarked transport companies, only 4 (4%) – CJ Logistics Corporations, MTR, Tokyu Corporation and NS Group – provided data on their current and future fleets, and only 5 (6%) provided information on research and development investments for low carbon technologies.[61]
- Of 27 benchmarked multi-modal companies, 22% (6 companies) have disclosed modal shifts.[62] The US Postal Service plans to switch its sub-contracted air operations to a ground fleet, and J.B. Hunt Transport Services has an agreement with a railway company to switch from road-only to inter-modal road and rail operations that are expected to be 2.5 times more fuel efficient.[63]
- Of the 90 benchmarked transport companies, 9% (8 companies) have disclosed plans to change demand patterns towards low carbon transport modes through, for example, route electrification or inter-modal transport; of these, 4 companies – Go-Ahead Group, J.B. Hunt Transport Services, NS Groep and UPS – have profitable and substantial business models.[64]
- In 2022, Amazon announced that it would invest more than EUR 1 billion (USD 1.1 billion) by 2027 towards fleet electrification, including tripling its electric fleet in Europe from 3,000 to more than 10,000 units by 2025.[65]
- Of 37 companies that offer multi-modal freight transport, 55% (20 companies) disclosed that they invest in **digital solutions** such as route optimisation and reducing empty kilometres, with UPS and Royal Mail plc reporting that these solutions reduce emissions.[66]

FIGURE 10. Transport companies with climate transition plans, by level of credible coverage

Source: See endnote 58 for this section.

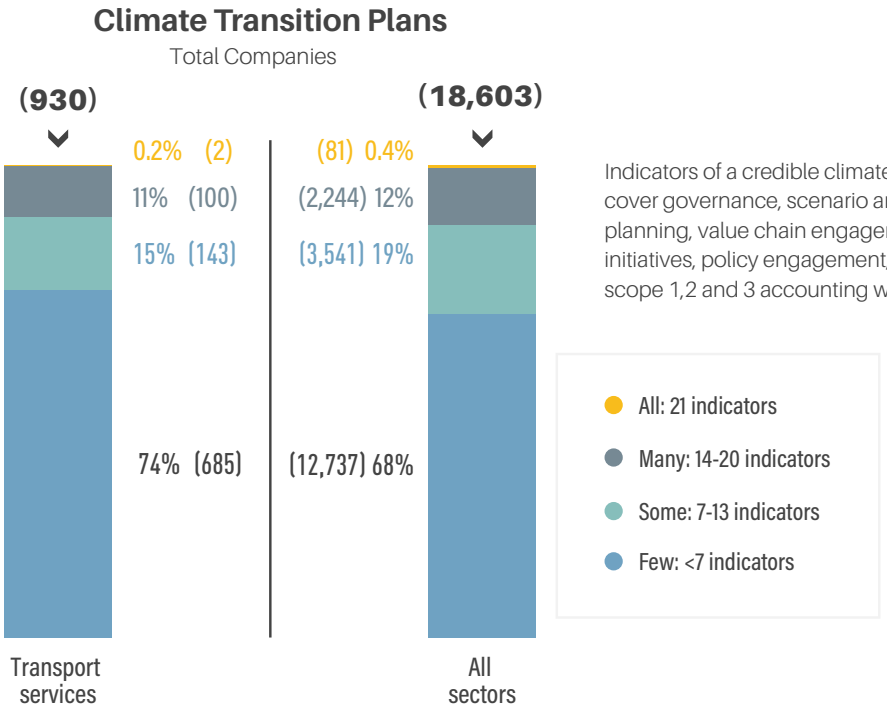


FIGURE 11. Comprehensiveness of climate transition plans of 90 transport companies

Source: See endnote 59 for this section.

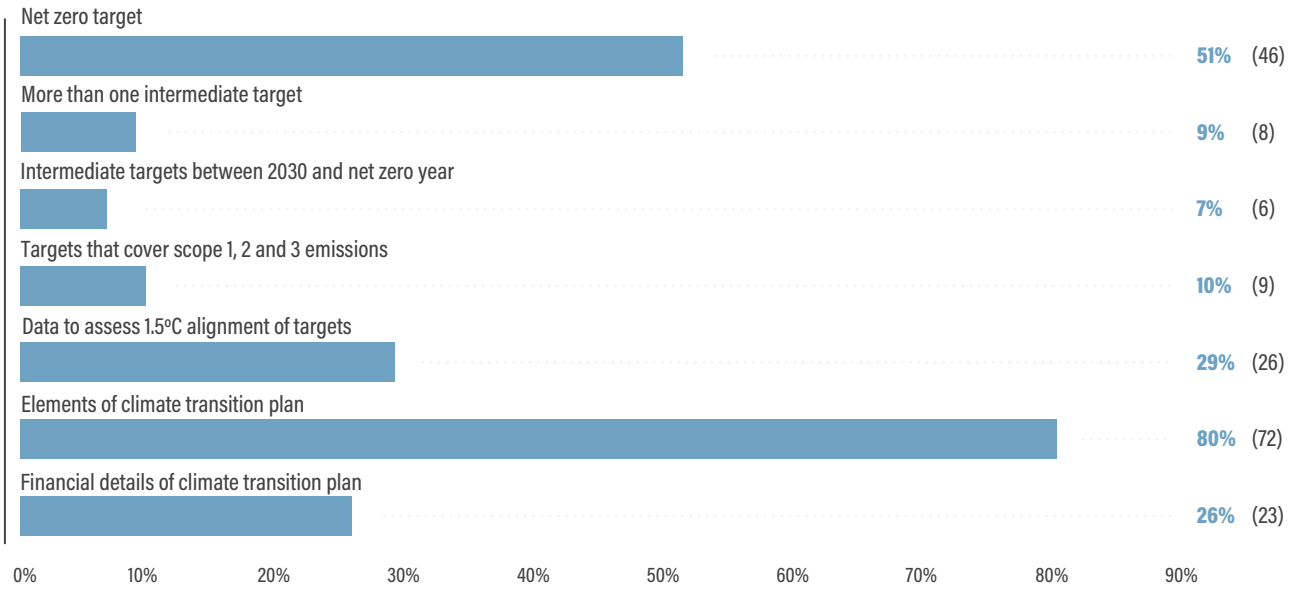
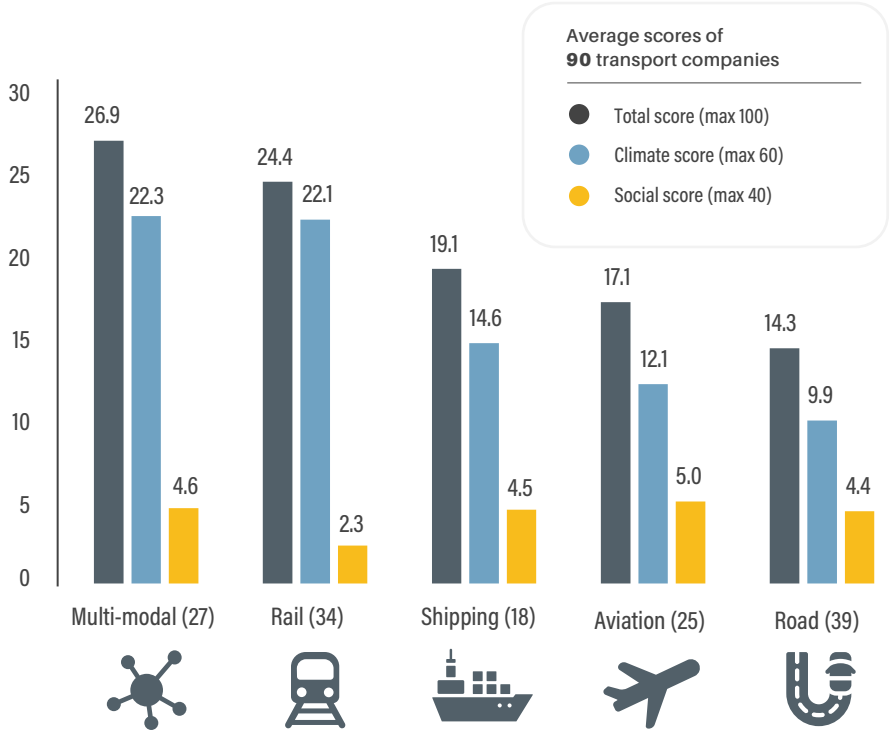


FIGURE 12. Average climate and social performance of 90 transport companies, by mode

Source: See endnote 67 for this section.



Globally, transport companies under-perform on the social side of climate and sustainability, including human rights, just transition, decent work and ethical conduct (see Figure 12), even though this is considered critical for the successful implementation of a climate transition plan.[67] Highlights in stakeholder engagement by 90 transport companies include the following.[68]

- None of the 90 companies cover planning for a **just transition** with time-bound targets, putting an estimated 10 million workers at risk.[69] However, 13% (12 companies) commit to **social dialogue** with workers, unions and other groups, and A.P. Moller Maersk notes its engagement with stakeholders including workers, unions, local communities, governments, civil society and multi-stakeholder initiatives.[70]
- In the survey, 38% (34) of companies undertake measures for **skills, training, and education**, including job opportunities for women and vulnerable groups (13%, 12 companies) and reskilling (7%, 6), with FirstGroup making a public commitment to reskilling and upskilling.[71]
- Among the 90 companies, 43% (39 companies) have **human rights policy** commitments, but only 3% (3) have a due diligence process covering human rights risks.[72] At the 2021 UN Climate Change Conference in Glasgow, UK (COP 26), the Maritime Just Transition Task Force was founded to look after seafarers in the transition towards a decarbonised shipping industry.[73]
- Among the 90 companies, 44% (31 companies) **engage with suppliers** on environmental issues that go beyond integrating climate considerations into the supplier code of conduct.[74] Of the 43 shipping and aviation companies surveyed, only 9% (4 companies) show evidence of working with manufacturers or fuel providers on low carbon vehicle research and development that has led to emission reductions.[75]
- Of the 44 companies with **sub-contracted activities**, 48% (21) have a strategy for working with sub-contractors to reduce emissions, despite 17 of these companies having a net zero target.[76] Deutsche Post DHL Group has a clear strategy for sub-contractors, including targets for alternative fuels and vehicles and a proven record of reducing emissions.[77]
- Of the total 90 companies, 48% (43 companies) have a strategy to **influence customers** to reduce emissions, for example through marketing campaigns or by offering customers low carbon alternatives; however, no company has set reduction targets for its customers.[78]

Advocacy

Inconsistent policy advocacy by transport companies risks delaying the climate action that companies need in order to meet their own emission reduction targets. Many of these companies are members of transport-related industry associations that tend to take a conservative approach to climate policy advocacy, particularly for shipping and aviation (see Table 3).[79]

- Around 54% (49 companies) of the 90 surveyed transport companies publicly support climate policies, but nearly half do not, despite many of them having climate targets and plans.[80]
- Only three companies – Maersk, Deutsche Bahn and Mediterranean Shipping Company – showed sufficient support for climate policy to be aligned with the low carbon transition.[81]

Accountability

Disclosure of climate-relevant information by large transport companies is becoming mainstream, with 930 transport service providers responding to CDP's climate change questionnaire in 2022.[82]

- Of 90 benchmarked transport companies, 84% (76 companies) had board-level oversight on climate change, but only 40% (36) had financial incentives tied to emission reductions for executives, and 10% (9) had such incentives for employees; only 6% (5) had significant climate change expertise at the board level.[83]
- The British transport service company FirstGroup offers incentives in the executive director's long-term incentive plan, with sustainability metrics accounting for 10% of this area of remuneration.[84]
- Hundreds of transport companies, as well as their customers, apply the **GLEC Framework**, the only globally recognised methodology to help companies harmonise the calculation and reporting of the logistics greenhouse gas footprint across the multi-modal supply chain.[85]
- **The new ISO 14083 standard on quantification and reporting of greenhouse gas emissions from transport operations, covering all transport modes, was released in March 2023 and is expected to increase and improve the quality of disclosure.**[86]

TABLE 3. Climate policy engagement among transport industry associations

Source: See endnote 79 for this section.

Industry association	Region	InfluenceMap rating	Engagement intensity
Airports Council International Europe (ACI Europe)	Europe	C-	26%
World Shipping Council (WSC)	North America	D+	33%
European Regions Airline Association (ERA)	Europe	D+	22%
European Community Shipowners' Associations (ECSA)	Europe	D	34%
Airlines For Europe (A4E)	Europe	D	49%

Note: The ranking (A+ to F) is a measure of how supportive or obstructive the company's direct engagement is towards climate policy aligned with the Paris Agreement. The engagement Intensity is a measure of the level of policy engagement by the company, whether positive or negative.

Companies that use transport

Companies are customers of transport through their own fleets and through public and freight transport services provided by third parties. Companies that have goods and products transported by third parties are also referred to as "shippers". These customers of freight can use their purchasing power to increase climate and sustainability ambition, advocacy, action and accountability for freight transport.

Ambition

More than 2,400 companies covering more than a third of the global economy's market capitalisation – including 43 transport manufacturers and 124 transport service providers – have approved science-based targets for reducing greenhouse gas emissions.[87] However, it is unclear how many of these companies have set specific transport-related emission reduction targets. Meanwhile, a growing number of companies have committed to decarbonising their fleets.

- **EV100** brings together more than 120 companies across 98 markets to transition their own or sub-contracted fleets of 5.5 million vehicles to electric vehicles, and to install charging infrastructure for employees and customers that will avoid 85 million tonnes of CO_2 by 2030.[88]
- In 2022, this was expanded with **EV100+** to cover zero-emission medium- and heavy-duty vehicles, sending a powerful demand signal to vehicle manufacturers and governments to accelerate the market scale-up worldwide.[89]
- The **Corporate Electric Vehicle Alliance (CEVA)** accelerates the deployment of zero-emission vehicles in the United States by aggregating demand, advocating for strong policies at multiple levels and sharing best practices on fleet electrification.[90] CEVA's 28 corporate members include Amazon, AT&T, IKEA, the National Grid and Uber, which collectively represent more than USD 1 trillion in annual revenue, and own, lease or operate more than 1.3 million on-road fleet vehicles in the United States alone.[91]
- Through the **First Movers Coalition**, shippers commit that by 2030 that they will: 1) use transport providers that only purchase zero-emission medium- and heavy-duty trucks; 2) ship at least 10% of goods internationally on ships using zero-emission fuels (and 100% by 2040); and 3) replace at least 5% of conventional jet fuel demand for air transport with SAF and/or zero-carbon emitting propulsion technologies.[92]

Photo: Ennis Schroeder / NREL

Action

Companies have taken actions related to their own fleets, including electric vehicles, biking and working from home.

- By 2022, **EV100** members had collectively deployed more than 200,000 electric vehicles and installed over 20,000 charging units at more than 3,000 locations, with 91% of members procuring at least some renewable energy for their chargers.[93]
- Research found that electric cars and vans could exceed 50% of new vehicle sales by 2032, with **electrified fleets** generating nearly half of those sales in certain more advanced geographic regions.[94]
- Companies have encouraged employees to **bike to work**, such as Tableau, Google, and Facebook in the United States, and an increasing number of companies are offering **work-from-home** opportunities, such as Amazon, Apple, Salesforce, and Wells Fargo.[95]

Shippers hold the key to making structural changes to freight transport by shifting to low carbon modes and reducing demand. Although statistics are lacking, numerous examples are available from leading shippers (see Table 4).[96]

Many companies have shown greater advancement in general energy-related measures than in tackling transport. In a survey of 129 supply chain executives, 71% stated that their business is undertaking environmental initiatives covering logistics warehousing, especially LED lighting (29%), followed by the use of alternative energy (22%), such as solar panels and ground-source heat pumps, but only 7% electric vehicles for delivery and distribution.[97]

TABLE 4. Strategies that shippers are using to "Shift" and "Avoid" emissions from freight transport

Source: See endnote 96 for this section.

Strategies	Examples from leading shippers
Revisit existing industrial processes and business models to reduce the number of freight movements.	■ **Interface** has been collecting and recycling post-consumer vinyl backed carpet tiles for over 20 years and produced its first 100%-recycled nylon carpet in 2010. ■ **Patagonia** introduced its Take-Back programme in 2021 to recycle old cotton products while supporting recycling chains for clothing waste.
Revamp industrial facilities and suppliers to reduce spatially fragmented supply chains.	■ **Cisco Systems, Schneider-Electric and Colgate-Palmolive** lead the Gartner Supply Chain Top 25 companies on excellence in supply chain management. ■ **LG Energy Solutions** (Republic of Korea) plans battery factories in Europe and US markets where demand is high.
Change logistics organisations and lower transport service levels to support the consolidation of flows and facilitate modal shift.	■ **IKEA** works with its transport providers and peers to reduce shipments and energy, replace with cleaner fuels and modes, and rethink the supply chain.

Advocacy

Policy advocacy to accelerate the uptake of electric vehicles has been strong among companies that have fleets and use transport services.

- Up to 78% of EV100 members believe that supportive policies from state, regional and city governments are vital to creating the right political climate for systemic change.16 Letters from EV100 members and supporting organisations to EU policy makers called for, among others, stronger CO_2 performance standards, sales of new buses to be zero emission by 2027 (and for new cars, vans and trucks by 2035), revision of the Alternative Fuels Infrastructure Directive to support more charging infrastructure, and exclusion of road transport from EU emission trading.[98]
- India's Ministry of Power issued guidelines for electric vehicle charging infrastructure in early 2022, which included four recommendations based on electric vehicle policy guidelines and an EV Ambition Statement initiated by the World Business Council for Sustainable Development (WBCSD) together with 30 companies.[99]
- Globally, nearly 800 companies called on government leaders to accelerate climate action, including the electrification of transport.[100]
- In Europe, it was mainly companies as transport customers that called for acceleration of the shift to electric fleets and for all new trucks sold to be net zero emissions by 2035.[101]

Industry associations that cover multiple sectors but also cover transport have tended to take a more conservative approach to climate policy advocacy, as shown for European associations **(see Table 5).**[102]

TABLE 5. Climate policy engagement among auto industry associations in Europe

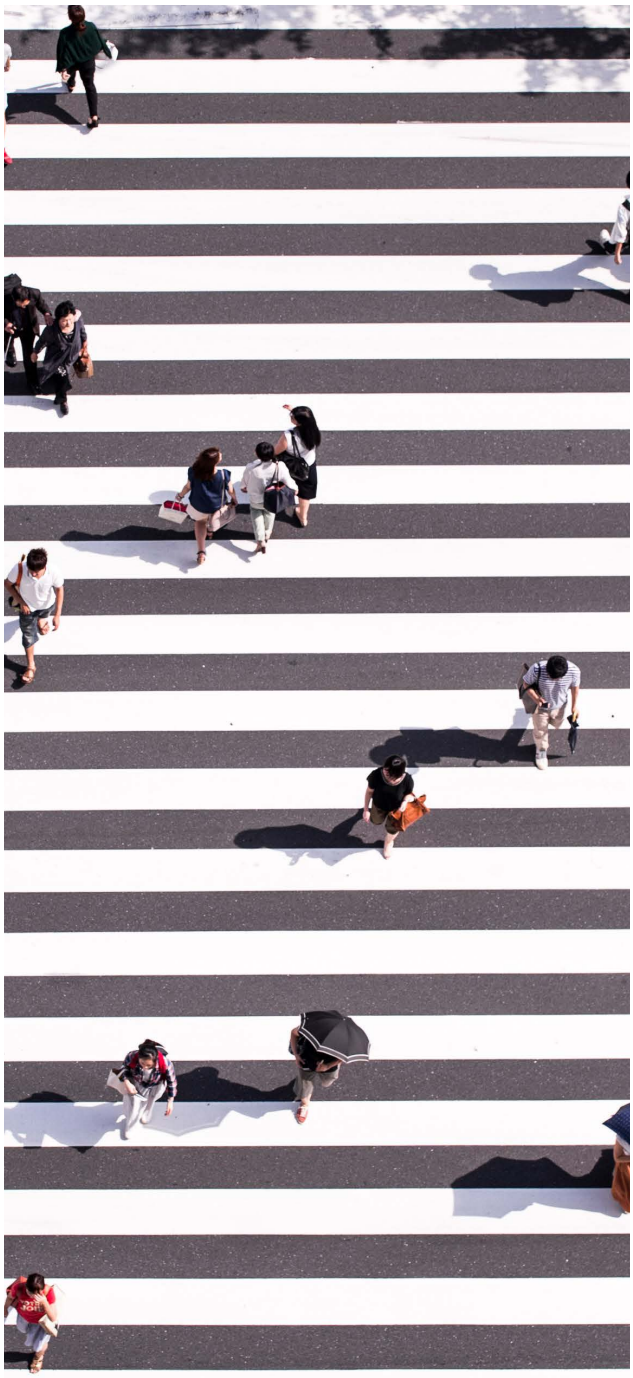
Source: See endnote 102 for this section.

Industry association	InfluenceMap rating	Engagement intensity
Corporate Leaders Group (CLG)	A	53%
Confederation of British Industry (CBI)	B+	36%
European Round Table for Industry (ERT)	C+	22%
Dutch Employers' Federation (VNO-NCW)	C-	27%
Mouvement des Entreprises de France (MEDEF)	D	38%
Spanish Confederation of Business Organizations (CEOE)	D	32%
Federation of German Industries (BDI)	D	60%
Confederation of Italian Industry (Confindustria)	D	54%
International Federation of Industrial Energy Consumers (IFIEC)	D-	34%

Note: The rating (A+ to F) is a measure of how supportive or obstructive the company's direct engagement is towards climate policy aligned with the Paris Agreement. Engagement Intensity is a measure of the level of policy engagement by the company, whether positive or negative.

Accountability

Although the disclosure of climate-relevant information by companies is becoming mainstream, little is known about the disclosure of companies (other than transport manufacturers and companies that provide transport services) on their transport emissions, targets and efforts to reduce emissions.[103] A 2019 survey of 2,604 companies concluded that disclosure is lacking, with just over 500 companies (around 20%) reporting scope 3 or supply chain emissions for transport, covering only 10% of global transport emissions.[104]



Opportunities to accelerate industry action

While many gaps remain to be addressed, there are three areas where the biggest opportunities lie to deliver on transport decarbonisation with strong support from businesses.

1

Improving business climate leadership can help prevent greenwashing, as leaders must follow through on their ambition with credible action, advocacy and accountability.

Setting science-based and other targets is not sufficient. The UN High Level Expert Group on the Net Zero Emissions Commitments of Non-State Entities provided 10 recommendations for companies to ensure that pledges towards net zero do not lead to greenwashing.[105] Companies that do not have a plan yet can develop one using the ACT Step-by-Step methodology. To enhance the credibility of plans they can use CDP guidance to report on their plans, take part in global benchmarks and publish third-party reviews of plans.[106]

Companies can improve the comprehensiveness of their climate transition plans that detail emission reduction measures, how action is integrated in business governance and strategy, policy lobbying and advocacy efforts, and a just transition for the workforce, suppliers and communities.[107] For transport, actions should focus more on shifting and avoiding transport – through, for example, walking, cycling, public transport, fuller truck loads, local sourcing and working from home – while integrating gender considerations. Companies should balance out unabated emissions by purchasing only high-integrity carbon credits.

More companies should engage in policy advocacy, showing that business backs ambitious climate policy and bringing their expertise on what it will take to put it into practice. This includes:[108]

- Make a public commitment to advocate for ambitious climate policy and engage key stakeholders.
- Publicly advocate for bold science-based climate policies, and call out those that obstruct the 1.5°C pathway.
- Align the climate policy advocacy of a company's trade associations, alliances and coalitions with the goal of net zero by 2050.
- Allocate advocacy spending to advance climate policies, not obstruct them.
- Disclose how memberships, financial contributions and direct engagement on climate policy support own climate ambition and action, while reporting misalignments and plans to address them.

For enhanced accountability, companies should be pro-active in disclosing on climate before they are eventually forced by investors and regulators to do so.

- The **International Sustainability Standards Board (ISSB)** has a new climate disclosure standard to meet investors' needs for sustainability reporting, starting as early as 2024.[109]
- The **EU Corporate Sustainability Reporting Directive** will require large companies and all listed companies that operate in the EU to disclose on sustainability issues to inform investors and other stakeholders, from 2024 onwards.[110]

2

Companies can be leveraged for wider system change to complement technological changes and in responding to climate impacts.

There is an over-reliance on technology-focused "Improve" strategies, despite growing evidence that "Avoid" and "Shift" strategies can contribute to 40-60% of transport emission reductions at lower costs.[111] The Intergovernmental Panel on Climate Change has further identified 10 systemic changes for transport to complement technological changes that will also contribute to sustainable economies and societies more broadly: 1) changes in urban form, 2) investment in transit and active transport infrastructure, 3) changes in economic structures, 4) teleworking, 5) dematerialisation of the economy, 6) supply chain management, 7) e-commerce, 8) smart mobility, 9) shared mobility and 10) vehicle automation.[112]

Companies can bring unique expertise, innovation and financing to the table. For example, logistics companies are best placed to help redesign freight transport systems to facilitate a circular economy. In all of this, inclusivity is key, taking into account gender, race, and age and ensuring that small and medium-sized businesses in the transport sector are active participants in the transition.

Transport companies will be essential to help prepare the world for the impacts of climate change, in at least three main areas: 1) by supporting climate adaptation efforts through, for example, construction to strengthen infrastructure, or providing water with trucks/trains to drought-stricken cities; 2) by providing services for climate disaster relief, such as transporting food, medicines, and shelters, as well as transporting people to safer areas; and 3) by building resilience in supply chains to increasing disruptions, for example by switching from just-in-time to just-in-case supply chains.[113]

3

Companies can engage in more effective collaboration by complementing other stakeholders in climate and sustainability actions, working with all partners in the value chain, supporting just transition pathways for transport and joining initiatives that will truly help deliver the transition.

Several key opportunities exist for more effective collaboration.

First, companies should identify their unique roles alongside other stakeholders. The **Roadmap towards Zero Emission Logistics 2050** gives examples of complementing roles for different freight decarbonisation actions.[114]

Second, transport manufacturers and other companies should play to their strengths to mobilise change together with value chain partners:

- Support customers from transport, who cover virtually all sectors, to reduce their transport carbon footprint and to move towards circularity that includes the (re-)design of the transport system. Both manufacturers and logistics companies have hundreds of customers, both from industry and government, and virtually all small and medium-sized businesses are transport customers.
- Educate consumers about sustainability and climate to reduce transport emissions not only from (retail and online) purchases but also from the products they buy, as shops and online platforms provide a unique opportunity to communicate with consumers.
- Truly collaborate with suppliers in realising joint long-term climate and sustainability goals instead of allowing short-term contracts and lowest-cost suppliers to override sustainability decisions.

Third, companies should step up their role in the just transition through **Just Energy Transition Partnerships** (**JETPs**) or other country-level frameworks. In South Africa, the National Business Initiative led the development of just transition and climate pathways for transport together with the private sector and other relevant stakeholders.[115] South Africa's transport sector can decarbonise by 2050 via four key levers including improved spatial planning; mode-shift to rail and public transport; accelerated zero-emission technology adoption, coupled with the decarbonisation of the national grid; and use of green fuels for hard-to-abate aviation and shipping.

The IEA expects investments in clean energy to reach USD 1.7 trillion and to outpace the USD 1 trillion in fossil fuel investments in 2023, as investors turn to energy efficiency, electrification, and renewables, including in the transport sector. Factors contributing to this investment boom include the COVID-19 pandemic, the Russian Federation's war in Ukraine, and increasing concerns about energy security and climate change.[116]

Finally, ample coalitions, partnerships and initiatives on transport exist to support manufacturers, transport providers and customers on the road to a decarbonised transport sector. The key lies in pro-actively identifying those that can best help to deliver on a company's climate and sustainability goals.

Photo: ADB

BOX 1. The Role of Companies in Decarbonising Global Freight and Logistics

AUTHORS: Sandra Rothbard, Rik Arends and Tharsis Teoh – *Smart Freight Centre*

Achieving net zero greenhouse gas (GHG) emissions by 2050 will not be possible without major changes in global supply chains. Freight transport accounted for around 42% of the GHG emissions from transport in 2019, and these are projected to grow 22% between 2019 and 2050 under a business-as-usual scenario (if no further action is taken) (*see Section 1.1 Transforming Transport and Mobility to Achieve the Targets of the Paris Agreement and the Sustainable Development Goals*).[1] Freight transport is a key component of supply chains that connect businesses across the economy. Because nearly all companies have outsourced at least some of their logistics operations, their efforts to achieve net zero emissions would require assessing the entire value chain, which is a complex undertaking but could be achieved using existing programmes focused on operations.

Opportunities by transport mode

In the longer term, the decarbonisation of freight transport will be achieved mainly through the transition of the energy supply from fossil fuels to renewables. However, the development of sustainable fuels for maritime transport and aviation has been much more limited than for other modes. As of 2019, the GHG emissions from road and aviation freight – measured as well-to-wheel CO_2 equivalent emissions per tonne-kilometre – were higher than the emissions from rail, inland waterways and maritime shipping (see Figure 13).[2]

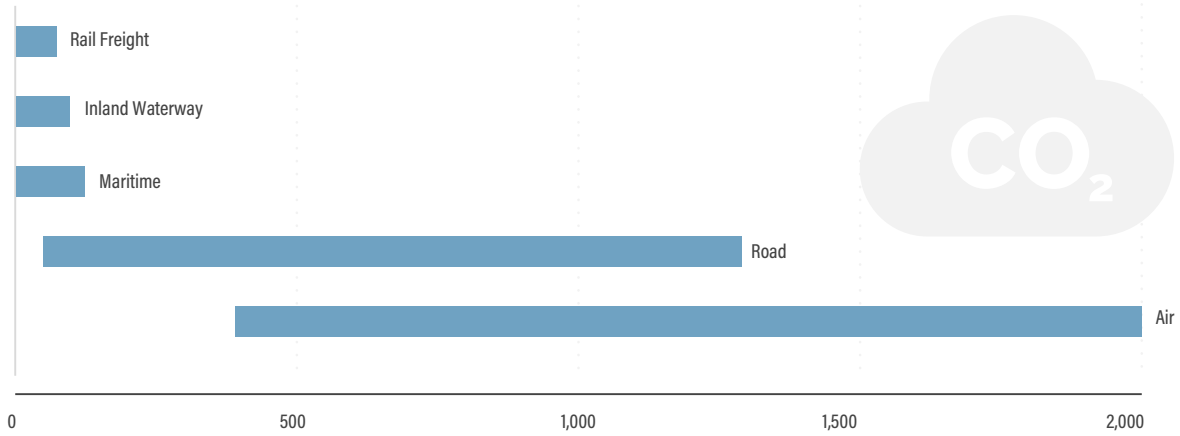
The International Energy Agency's scenario for net zero GHG emissions requires reducing transport CO_2 emissions (passenger and freight) 90% below 2020 levels by 2050, with the highest reductions being in road transport, followed by rail, shipping and aviation.[3] Freight transport emissions could be reduced 76% below 2020 levels by 2050 with policies that support higher operational efficiencies, optimised routing and asset sharing, freight consolidation, enhanced collaboration in supply chains, shifts to railways or inland waterways, standardisation and low-carbon solutions (*see Section 1.1 Transforming Transport and Mobility to Achieve the Targets of the Paris Agreement and the Sustainable Development Goals*).[4]

Rail: Already, around half of all rail freight activity is electrified (*see Section 3.5 Rail*).[5] Increasing the modal share of rail thus could be an opportunity to reduce overall emissions. Rail is expected to account for a growing share of non-urban freight activity, particularly over longer distances.[6] Companies can capitalise on existing rail freight networks by collaborating horizontally to consolidate shipments and by partnering with reliable intermodal operators. IKEA collaborated with partners on transporting goods on a 2,000-kilometre non-stop rail trip (round-trip from Poland to Spain), reducing the need for around 4,500 trucks.[7]

Road: Around 60,000 electric medium- and heavy-duty trucks were sold in 2022 (1.2% of all trucks globally), with around 85% of the sales taking place in China.[8] Electric light-duty vehicles made up 8.3% of global car sales in 2021.[9] By 2030, 40% of all new truck sales in Europe and the United States are projected to be zero emission, in line with the Global Memorandum of Understanding for Medium- and Heavy Duty Vehicles; this is more than the currently planned supply of vehicles.[10] Through the EV100 campaign, 121 companies worldwide committed to transitioning their fleets to electric by 2030, covering 5.5 million vehicles and

FIGURE 13. Indicative emission intensity ranges by transport mode (well-to-wheel grams of CO_2 equivalent per tonne-kilometre)

Source: See endnote 2 for this section.



potentially avoiding 85 million tonnes of CO_2.[11] Companies must begin now to develop the appropriate infrastructure, increase the sectoral expertise, and test new collaborative models with carriers, most of which are small and medium operators. Holcim, a company that creates building materials, announced a plan to deploy up to 1,000 electric trucks by 2030.[12]

Maritime: In 2023, the International Maritime Organization (IMO) adopted a revised strategy to reduce GHG emissions from international shipping at least 70% (and striving for 80%) below 2008 levels by 2040. This is a major improvement to the IMO's initial (2018) strategy that aimed only for a 50% reduction by 2050. Shipping lines must begin by calculating the Energy Efficiency Existing Ship Index and Carbon Intensity Indicator of their vessels. Deep reductions require the adoption of zero-emission fuels, which are not yet produced at scale. Companies should team up with carriers to swiftly implement efficiency measures such as slow steaming (slowing speeds to reduce fuel use), even if it affects product time-to-market, and prioritise the prompt deployment of low-emission fuels. Maersk is working to decarbonise its fleet by introducing carbon-neutral methanol-powered container vessels as of 2024.[13]

Aviation: In October 2021, the member airlines of the International Air Transport Association committed to achieving net zero emissions by 2050.[14] A year later, the International Civil Aviation Organization set a new long-term global aspirational goal of net zero carbon emissions by 2050.[15] Sustainable aviation fuels (SAF) and e-fuels have been promoted as solutions for achieving net zero emissions in the sector. SAF is produced from second-generation biogenic feedstocks (for example, waste products) but is constrained by limited availability, while e-fuels are produced synthetically and reduce CO_2 emissions up to 80%, although they are not yet produced at scale and remain costly.[16] Despite this, companies can make major changes now. Shipping companies should support the decarbonisation efforts of air freight carriers by choosing and paying premiums associated with carriers that use SAF, invest in fuel-efficient aircraft and optimise air traffic management. Boeing has launched a dashboard that tracks and projects SAF production.[17]

Approaches for companies to tackle emission reductions

Many companies today have a corporate social responsibility (CSR) plan – a business model developed in-house that outlines how the company will remain socially, economically and environmentally accountable. Despite good intentions, however, there is risk of simply "checking the box" and doing the minimum to comply with such standards and regulations. A disconnect is observed between the CSR targets of companies and their day-to-day operations focused on efficiency and cost.[18]

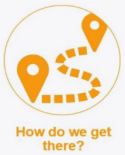
The Smart Freight Centre has developed a four-step framework to offer a systemic approach for companies to decarbonise global freight and logistics:

Report and calculate credible emissions across the multi-modal supply chain

Private sector entities, such as Unilever and DHL, understand their logistics footprint by using the guidance and calculation framework provided by the Global Logistics Emissions Council (GLEC) framework.[19] This is built on the GHG Protocol and meets legislative requirements, such as the monitoring, reporting and verification scheme from the IMO and the European Union's (EU) forthcoming Corporate Sustainability Reporting Directive requirements in 2024.[20]

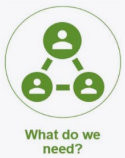
Set targets for emission reduction thatare sceince-based

Initiatives such as the Science Based Targets Initiative (SBTi) guide and vet the emission reduction targets of companies to ensure that they are consistent with the Paris Agreement.[21] Once targets are set, businesses can be held accountable and must adjust operations to achieve their goals. These external commitments also support internal alignment within the company to achieve said targets (see *Section 1.3.3 The Role of Business in Decarbonising Transport*).



Reduce emissions by implementing solutions as buyer or supplier

Across all modes of freight, companies are implementing operational changes to decarbonise supply chains by increasing filling rates, reducing empty kilometres and optimising their logistics systems. Currently, substantial under-utilisation of vehicle capacity exists, with 20% of truck-kilometres running empty in the EU.[22] By working together, multiple businesses can share vehicles to save space and money. Digitalisation and operational improvements can greatly reduce emissions and energy consumption through improvements in efficiency.



Collaborate and advocate for sector-wide and supportive policy

Decarbonisation of transport is a systemic change that will require alignment, co-operation and even active collaboration by shippers, logistics actors, solution providers and policy makers. Highlights of collaborations among SLOCAT partners to help freight businesses track and reduce their emissions include:

Smart Freight Centre's Clean Cargo advances the decarbonisation of container logistics through partnerships among ocean container carriers, freight forwarders and cargo owners.[23]

ICLEI EcoLogistics advances effective regulatory, planning and logistical instruments at all levels of government to support low-carbon urban freight.[24] Participating cities develop viable alternatives to low-quality, diesel-powered freight vehicles, particularly for last-mile logistics.

Polis Network's Urban Freight Working Group encourages public-private strategic dialogue to identify collaborative solutions for clean and efficient urban logistics, bringing together cities, countries and companies.[25]

Sustainable Freight Buyers Alliance brings together freight buyers and suppliers to provide exposure to projects, scale solutions, and streamline procurement, supported by regional programmes in China and India.[26]

1.3.3
THE ROLE OF BUSINESS IN DECARBONISING TRANSPORT

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