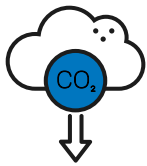


Net zero: Road transport

12% of human-caused greenhouse gas emissions come from road transport.¹ What does the **automobile sector** need to do to reach net zero?

LGIM will vote and implement investment sanctions against companies falling short of our climate expectations. LGIM expects companies' boards to oversee and publicly disclose answers to the following:



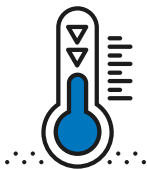
Net-zero commitment

- Does the company have a comprehensive target for net zero by 2050 or earlier, covering scopes 1, 2 and material scope 3 emissions?²
- Has the company made a commitment to certify/certified this target with the SBTi or other external independent parties as they develop?
- Does the company have a net-zero transition plan that includes short- and medium-term targets?³



Strategy

- What are the actions and investments embedded in the company's plan to reach net zero, and what is the contribution of each action towards meeting its targets?⁴
- Is executive remuneration aligned with the company's short- and/or medium-term emission targets, as set out in the net-zero transition plan?
- Does the company's decarbonisation strategy address and incorporate the impact of the Just Transition?
- Does the company's net zero strategy consider the potential impacts and dependencies on biodiversity – for example, in relation to land-use change/ biofuel production?



Resilience

- Has the company analysed the physical climate risks to its assets and operations and evidenced measures to manage them?
- Has the company analysed the resilience of its business model in – and its alignment to – climate scenarios, including the IEA's net-zero by 2050 scenario?



Targets

- Does the company have targets to improve life-cycle emissions/the circularity of products, particularly with batteries?
- Does the company have targets related to the use and roll-out of low/zero-carbon fuels/vehicles/ technologies?
- Does the company have a commitment to reach 100% zero emission new car and van sales by 2035 in advanced economies, and by 2040 globally?



Collaboration

- How is the company working collaboratively across its value chain to reduce emissions (e.g. strategic R&D partnerships, charging infrastructure providers, financing, sector initiatives etc.)?
- Is the company advocating meaningful policy action, including from regulators, to meet global net zero targets (e.g. with carbon pricing)?



Red lines

- Does the company have a net-zero emissions target, covering all of the scopes of material emissions, including the phasing out of ICE vehicles?
- Does the company disclose its climate-related lobbying activities, including trade association memberships, and explain the action it will take if these are not aligned with a 1.5°C scenario?

1. HSBC (2019), based off IEA, EDGAR, Global Carbon Project

2. Aiming to cover all segments of the business, as articulated within the GHG protocol guidance.

3. Short-term refers to 2022 - 2025, medium-term 2026-2035 and long-term 2036-2050.

4. E.g., Phase-out of Internal Combustion Engine (ICE) vehicles, uptake of electric vehicles (EVs)/plug-in hybrid electric vehicles (PHEVs)/fuel cell electric vehicles (FCEV)s/biofuel vehicles, etc.

Further areas for company consideration

Biodiversity expectations

Why? The climate and nature crises are inextricably linked.⁵ Net zero requires both emission avoidance and sequestration. Functioning natural systems are essential to this but increasingly vulnerable due to climate change.

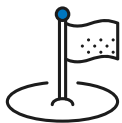
LGIM's expectations: An assessment of the impacts and dependencies on nature and biodiversity, and appropriate mitigation actions.

Sector-specific considerations: Indirect impacts could result from raw-material extraction, polluting emissions and the use of biofuels. Directly - from the manufacturing process.



Company levers

- Electrification and battery storage
- Charging infrastructure
- Fuel economy and biofuel blending
- Digitalisation
- Hydrogen
- Decentralisation of energy
- Automation/self-driving
- Ride-sharing



Challenges

Charging infrastructure and 'range anxiety'
 Limited alternatives for heavy-goods vehicles (HGVs)
 Potential raw material bottlenecks
 Costs of green hydrogen production
 Consumer choice and time lag for vehicle switch



Opportunities

Growing demand for passenger vehicles
 Fuel cells
 'Mobility as a service' as new business model; synergies with IT and power sector
 Increased efficiency and safety from digitalisation and automation

Government policies

- Phasing out sales of internal combustion engine vehicles (ICE)
- Carbon pricing
- Subsidy reform and R&D assistance
- Emissions and efficiency standards
- Congestion charges and public transport
- Scrappage schemes
- Government procurement

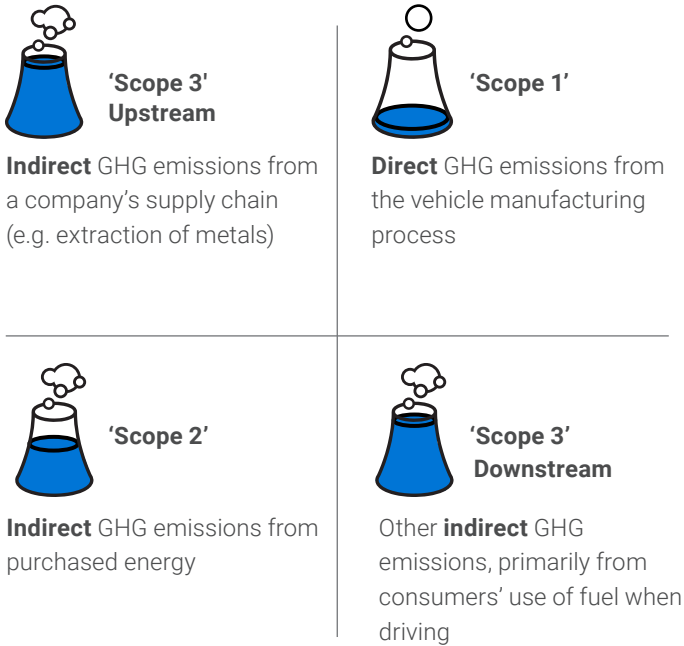


What is needed?

Company leadership	Research and innovation	Consumer behaviour
Investment and R&D for net zero across vehicle life-cycle	Fuel cells and hydrogen infrastructure Advancement in battery cells Demand management	Optimising vehicle usage Modal shift in transport

5. UN IPCC-IPEBS, [Biodiversity and Climate Change workshop report \(2021\)](#)

Sources of emissions



Sources: HSBC (2019), based off IEA, EDGAR, Global Carbon Project

'Just Transition' considerations

The potential implications for employees, the supply chain, customers and communities from the transition to a lower-carbon business model

Affordability of transport

Labour rights in battery value chain

Physical risk impacts

Disruption to production facilities and supply chains from extreme weather



For more information and to see how companies are rated

[Climate Impact Pledge 2022 - Net zero: going beyond ambition \(lgim.com\)](https://www.lgim.com/climate-impact-pledge-2022-net-zero-going-beyond-ambition)

[LGIM Climate Impact Pledge score](#)

[LGIM Climate Impact Pledge](#)

Important information

Source: LGIM as at August 2022. The value of an investment and any income taken from it is not guaranteed and can go down as well as up, you may not get back the amount you originally invested. The above information does not constitute a recommendation to buy or sell any security.