

Accelerating Investment for Road and Rail Decarbonisation

With transport accounting for approximately 23% of energy-related CO₂ emissions worldwide¹, decarbonising the industry is critical to achieving carbon-reduction targets. This is a global challenge, reflected in the Paris Agreement, but is also a key issue across individual jurisdictions. In the UK, for example, decarbonising transport was a key priority in the June 2025 Spending Review and in Australia, the Commonwealth Government has very recently introduced a detailed Transport and Infrastructure Net Zero Roadmap and Action Plan.

Through IPFA, we joined forces with a group of industry experts based around the world, to explore common challenges and opportunities in relation to the successful decarbonisation of the transport sector.

As governments, investors, and industry leaders confront the realities of climate change, the path to net zero in transport is both urgent and complex. The proliferation of initiatives has led many market participants to adopt a wait-and-see approach, raising a critical question: how can we maximise these opportunities to accelerate the decarbonisation of transport?

To find out, we brought together a diverse group of global business leaders operating across the rail, road and infrastructure sectors – including banks and other financiers, professional services firms, investors and government/local authorities. Together, that group designed a survey for all IPFA members to identify wider priorities and concerns within the market. This has afforded us a global insight into the attitudes of those at the heart of the industry today, and how they view its prospects for the years ahead.

This report of our findings reveals a sector that is cautiously optimistic, yet acutely aware of persistent

barriers. Confidence in meeting climate targets remains low, hindered by regulatory uncertainty, insufficient government incentives, and the ongoing challenge of building necessary infrastructure. However, there is broad consensus on the drivers that can accelerate investment:

- robust and stable regulatory frameworks;
- targeted government support;
- a visible and consistent pipeline of well-defined projects; and
- a skilled workforce underpinned by ongoing research and development.

“The message is consistent: long-term certainty, national development plans, and coordinated action are essential to accelerate progress.”

Jamie Illingworth
Partner, Ashurst

In the road and rail sectors, electrification remains the leading route to decarbonisation for the near term, with stakeholders rallying around solutions such as rail electrification, electric vehicles, and smart charging infrastructure. However, contributors highlighted that successful widespread implementation will require systems-level integration and collaboration among local authorities, grid operators, landowners, transport operators, and financiers to avoid a fragmented and inefficient approach. Survey participants' preference for electrification over hydrogen fuel in the short to medium term is expected, given hydrogen's requirement for the development of an entirely new infrastructure network. Whilst hydrogen is still likely to play a role in the short to medium term for heavier vehicles, such as heavy goods vehicles and locomotives, most other vehicles – including buses – are expected to be electric.


There is a current lack of confidence in vehicle-to-grid (V2G) technology. However, as electricity grids decarbonise and rely more on intermittent renewable energy, flexibility services like V2G could become increasingly important for balancing supply and demand. If governments and regulators can assign value to these services, they will become much more attractive to investors. Accelerating investment will require a holistic view of both energy and transport networks, as decarbonising transport is inextricably linked to decarbonising the supporting energy system.

Across all regions – whether in France, the UK, Australia, Germany, China, or Canada – the message is consistent: long-term certainty, national development plans, and coordinated action are essential to accelerate progress. Delivery confidence, including the planning capacity of local authorities and the ability of distribution network operators to process connection requests, will also be critical.

Rural and dispersed geographies present unique challenges, where standard investment models often do not apply but remain strategically important. A common approach to de-risking is needed, involving coordinated energy investment, co-location of fleets, and shared-use infrastructure.

The influence of regulators, institutional investors, and corporate boards is paramount, as is the growing importance of ESG (Environmental, Social, and Governance) and net zero agendas in shaping investment decisions.

The next decade will be critical. Only through clear policy direction, strong government leadership, effective regulation, and a collaborative approach can we accelerate the investment needed to transform our transport systems and achieve our climate ambitions.



“Successful decarbonisation of transport networks requires systems-level integration and collaboration among stakeholders to avoid fragmented and inefficient approach.”

Alex Guy
Partner, Ashurst

Key themes to emerge from discussions among our group, and a survey we conducted, included:



Low confidence in the trajectory of global rail and road decarbonisation

- There was clear consensus between survey participants and Special Interest Group members that not enough is being done at a global level to decarbonise road and rail transportation to meet climate change targets, with very few confident that global and country-specific targets will be met.



There are clear drivers that influence investment decisions in the sector

- Legislation and regulation: The robustness of legislation and regulation was consistently cited as a critical driver for investment confidence. This emphasises the need for clear, stable, and supportive regulatory frameworks as countries decarbonise.
- Incentives and subsidies: The availability of government incentives and subsidies was noted as another major driver, with many calling for increased or more-accessible subsidies. Investment will also require clarity and consistency in government support: with industry participants in the UK, for example, citing the recent cancellation of the proposed EV Rapid Charge Fund as having a detrimental effect on confidence in public sector support for EV charging infrastructure investment.
- Pipeline and growth expectations: A stable and visible project pipeline, along with positive growth expectations, are important for building confidence.
- Access to skilled workforce and R&D: The importance of skilled labour and ongoing research and development to support technological innovation and project delivery were highlighted.



Barriers to investment included:

- Regulatory and policy uncertainty and lack of government incentives: Unclear or inconsistent regulation, slow regulatory processes, and lack of clear government support were cited as significant barriers.
- Lack of supporting infrastructure: A general sentiment that insufficient infrastructure – including energy infrastructure, such as hydrogen pipelines, and energy supply for electric vehicle (EV) chargepoints – hampers the investment in transport-decarbonisation strategies. In some jurisdictions, such as the UK, limitations on grid capacity were cited as key barrier to investment in EV charging projects.
- Technology risks: Concerns about technology obsolescence were common, for example in the context of financing battery projects over any extended term.



Technologies and solutions: clear preference for electrification in the short to medium term

- Electrification: There was strong support for electrification across both the rail and road sectors, including rail electrification, battery/electric rolling stock, EVs, and e-buses.
- Hydrogen: Confidence in hydrogen being a material part of the energy mix in the next 10 years was low.
- Vehicle-to-grid technology: There was also a lack of confidence in vehicle-to-grid technology forming part of the energy mix in the foreseeable future.



Expectations for future investment

- Short to medium term: The most-significant growth and investment in the next 5 years is expected to be in electrical technologies (batteries, e-buses, EVs, smart charging, rail electrification).
- Medium to longer term: There is a longer-term view with hydrogen technologies, with some expecting investment to accelerate within the next 5-10 years, though others see an even longer horizon (10+ years) for widespread adoption.



Policy recommendations: A clear call for long-term certainty

- There is strong demand amongst those in the industry for national development plans, long-term committed budgets, and streamlined approvals to accelerate progress.
- Aligned with this, participants noted that long term legislative certainty is foundational to investor confidence: for example commitments to specific dates for ICE sales (noting that in the UK, for example, the Zero Emission Vehicle Mandate has been subject to some change, potentially denting demand certainty for some industry participants).



Stakeholder influence is critical to decarbonisation decisions

- Key influencers: Regulators, government bodies, institutional investors, clients, and boards were identified as the most influential stakeholders in shaping investment decisions.
- ESG and Net Zero agendas: Many organisations are driven by their own ESG agendas, in conjunction with government net zero ambitions and customer expectations.

From these discussions, it is clear that the sector is cautiously optimistic, but hampered by regulatory uncertainty, insufficient incentives, and infrastructure challenges. Stakeholders are eager for clearer policy direction, stronger government support, and a more-coordinated approach to decarbonisation across both rail and road transport.

The next 5-10 years are going to be critical for accelerating investment and the transition to low-carbon transport solutions. However, for us to meet these global objectives, we all need to work together to speed up progress towards our climate targets.

As chairs of the IPFA Decarbonisation of Transport Special Interest Group, Ashurst's transport decarbonisation practice extends its sincere thanks to the 51 industry experts who volunteered to join this Special Interest Group and who collaborated with us in the development of this report, from:

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| • Addleshaw Goddard | • Deloitte | • KPMG | • SMBC |
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| • Arcadis | • Foresight Group | • Mott MacDonald | • Transport Infrastructure Ireland |
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| | | • Siemens | |

We are grateful for the candid discussions and valuable insights offered by the Special Interest Group Members, as well as for the time and thoughtful responses provided by the wider industry participants who responded to our survey.

We look forward to continuing this important conversation and to observing how our respective countries progress on the journey toward transport decarbonisation.



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