The Chartered Institute of Logistics and Transport Ireland

Submission to Public Consultation

Update to the National Policy Framework for Alternative Fuels Infrastructure for Transport

The widespread adoption of alternative fuel sources has the potential to drastically enhance both Irish society and the economy by promoting environmental sustainability, reducing greenhouse gas emissions, and decreasing dependence on imported fossil fuels. Transitioning to alternative energy sources such as electricity, hydrogen or biofuels aligns with Ireland's commitment to the climate goals outlined in the Paris Agreement and the EU Green Deal, contributing to significant reductions in carbon emissions. The European Commission's "Alternative Fuels Infrastructure Regulation" aims to ensure the availability of alternative fuels infrastructure across the EU, ensuring full interoperability and comprehensive user information. The framework mandates national targets for electric recharging and hydrogen refuelling stations, supports the EU's climate goals and facilitates the transition to sustainable mobility by encouraging the adoption and utilisation of alternative fuels by consumers. From an economic perspective, developing alternative fuels infrastructure could stimulate job creation across numerous sectors such as green technology manufacturing, the production of renewable energy and the infrastructure construction and maintenance. These sectors could potentially provide long-term, high-quality jobs that support resilience and economic diversification. Additionally, fostering a domestic alternative fuels industry reduces Ireland's reliance on imported fossil fuels, enhancing energy security and mitigating the risks associated with volatile global energy markets. This increased energy independence can lead to more stable energy prices, benefiting consumers and businesses alike. Furthermore, positioning Ireland as a leader in green innovation could attract international investments, partnerships, and tourism, bolstering the country's economic standing on the global stage.

Efficient and adequate alternative fuels infrastructure is crucial for the successful transition to a low-carbon economy, ensuring that the adoption of cleaner energy sources can be both widespread and sustainable. Firstly, the availability and accessibility of alternative fuel infrastructures such as electric charging stations, hydrogen refuelling stations, and biofuel supply chains are essential to encourage consumers and businesses to transition over from conventional fossil fuels. Without a reliable and extensive infrastructure, range

anxiety and operational uncertainties can deter the adoption of alternative fuel vehicles, vessels, and aircraft. A well-developed infrastructure minimises these concerns by providing convenient and consistent access to necessary fuelling points, thereby enhancing user confidence and convenience. This infrastructure also plays a critical role in supporting economic activities. For instance, efficient logistics and transportation networks are the backbone of trade and commerce; by ensuring these networks can rely on alternative fuels, the overall economic efficiency and competitiveness of the nation can be maintained and even improved. Moreover, a robust alternative fuels infrastructure facilitates the scaling up of renewable energy solutions. For example, electric vehicles (EVs) and their charging networks can be integrated with smart grids, optimising energy use and storage, and promoting renewable energy generation. This integration can lead to more resilient energy systems that are better able to withstand and adapt to fluctuations in energy supply and demand. The importance of alternative fuels infrastructure cannot be overstated. It is vital for reducing emissions, enhancing energy security, supporting economic activities, promoting technological innovation, and ensuring a smooth and efficient transition to a sustainable energy future. By investing in and developing a comprehensive and efficient alternative fuels infrastructure, Ireland can secure a sustainable and prosperous future, benefiting both the environment and the economy.

1. **What are the key and most pressing barriers you see with respect to the deployment and use of alternative fuels infrastructure in the land transport /maritime/ aviation sector? What mitigating steps or measures can be undertaken to address these barriers?**

The deployment and use of alternative fuels infrastructure in the land transport, maritime, and aviation sectors face several critical barriers due to the high initial costs of development, technological compatibility issues, and regulatory uncertainties. In land transport, the primary challenges include high initial costs, technological diversity, regulatory uncertainty, and consumer reluctance. There are numerous major obstacles that must be overcome before alternative fuel infrastructure can be deployed and used in the land transportation industry, especially for heavy goods vehicles (HGVs). The high initial costs of establishing infrastructure, such as hydrogen refuelling stations and fast-charging points for electric HGVs, present a major financial challenge. These costs include land acquisition, technology deployment, and integrating these systems with existing energy grids. Technological limitations also hinder progress; current alternative fuel HGVs often have insufficient range and long refuelling or recharging times, which are inadequate for the long-haul routes that dominate the freight sector. There is also a limited availability of suitable vehicles and infrastructure to support these technologies. Logistics companies' hesitation is due to concerns about the reliability, availability, and total cost of ownership of these vehicles compared to conventional diesel trucks.

Moreover, there is significant market and consumer reluctance to adopt alternative fuel HGVs. The transition of the HGV sector to more sustainable fuels will likely need to be a gradual process due to the sector's established reliance on diesel. An effective initial step could be to promote the use of biofuels, which can be seamlessly integrated into existing diesel engines and storage systems with minimal modifications. High-quality biofuels like Hydrotreated Vegetable Oil (HVO) are particularly promising, as they not only significantly reduce greenhouse gas emissions, but they do not require costly engine upgrades. However, these biofuels are more expensive than conventional diesel, necessitating government intervention through tax incentives or subsidies to make them economically attractive to HGV operators. The investment required for biofuel infrastructure is relatively modest compared to other alternative fuels, positioning biofuels as a feasible interim solution. Initiatives like that of Coca-Cola European Partners

(CCEP) in the Netherlands highlight the immediate benefits of biofuels, offering a practical path to decarbonization without major changes to existing vehicle fleets. The company transitioned its entire third-party logistics fleet to HVO as part of its efforts to achieve net-zero emissions by 2040. This switch has significantly reduced greenhouse gas emissions, showcasing HVO's effectiveness as a sustainable fuel option for logistics operations (Biofuels International, 2022). A comprehensive approach involving policy adjustments, financial incentives, and collaboration across sectors is essential to support the HGV sector's transition to sustainable fuels. This multifaceted strategy will ensure that the transition is both economically viable for operators and environmentally beneficial.

There are also several significant hurdles to the deployment and usage of alternative fuels infrastructure for automobiles. One major challenge is the high initial cost associated with establishing EV infrastructure, which includes the installation of fast chargers and upgrading the electrical grid to handle increased loads. These costs can be prohibitive, especially in regions with limited financial resources. Additionally, technological limitations such as limited range and long charging times for EVs can deter consumers from transitioning away from traditional gasoline vehicles. The current EV infrastructure is also inadequate, with insufficient charging stations, slow charging speeds, and inconsistent availability, especially in towns, service areas, and hotels. Many public chargers lack the necessary speed to recharge vehicles efficiently, and the cost of recharging varies widely, often without clear pricing information. To improve adoption, it is crucial to establish minimum standards for charger speed and display maximum electricity prices prominently, similar to fuel pricing at filling stations. Addressing these issues is essential to overcoming barriers to the deployment and use of alternative fuels infrastructure.

Regulatory and standardisation issues also present significant obstacles. The lack of consistent regulations and standards across different regions leads to challenges in building a cohesive and interoperable network of charging stations. This inconsistency can result in fragmented infrastructure, making it difficult for EV users to find reliable and compatible charging options during their travels. The migration over to EVs could also be seen as skirting the problem as the driving factor behind the move to EVs and other alternative fuels is to reduce greenhouse gas emissions and combat climate change. While the shift to EVs is crucial for reducing greenhouse gas emissions, it is not a comprehensive solution to environmental issues. The production of EVs, particularly their lithium-ion batteries, involves significant resource extraction and energy use, leading to environmental degradation and ethical concerns (The Guardian 2021).

Additionally, road infrastructure, traffic congestion, and urban planning impact the environment, regardless of vehicle type (Energy.gov 2021). The entire lifecycle of EVs, including battery disposal and recycling, also requires careful management to avoid ecological harm (World Resources Institute 2021). This highlights the need for a holistic approach that goes beyond vehicle electrification and promotes public transportation, car-sharing, and sustainable urban design (Nature 2020; UN Environment Programme 2021).

Overcoming the barriers to deploying and using alternative fuels infrastructure in land transport requires a comprehensive approach addressing high initial costs, technological diversity, regulatory uncertainty, and consumer reluctance. Financial incentives such as government subsidies, grants, and tax breaks are crucial in reducing the upfront costs of building infrastructure. According to a paper published by the Chartered Institute of Logistics and Transport Ireland (CILT), these incentives help alleviate the initial financial

burden on infrastructure projects, making them more feasible. Government subsidies provide direct financial support, grants offer non-repayable funds for projects with significant public benefits, and tax breaks reduce overall tax liabilities, thereby improving the return on investment. These measures collectively lower financial barriers, encourage private investment, and expedite the development of essential infrastructure, fostering economic growth and public welfare (Plant-O'Toole et al., 2020).

Innovative financing models like green bonds and dedicated public infrastructure funds can attract investment from environmentally conscious investors, providing stable funding sources for large-scale projects. Battery swapping and other approaches, such as universal charging standards, significantly mitigate technological diversity barriers in alternative fuels infrastructure deployment. Standardised battery packs and charging systems promote interoperability across different vehicle brands, enhancing infrastructure efficiency and reducing costs through economies of scale. These solutions enable quick turnaround times, reducing range anxiety and increasing user convenience, thereby promoting broader adoption of electric and hydrogen vehicles. Additionally, they allow for futureproofing, as existing infrastructure can easily accommodate technological advancements without substantial modifications.

Overall, these strategies streamline infrastructure investments and support continuous innovation in the sector. Investment in research and development can lead to innovations that lower costs and improve efficiency, such as advancements in fast-charging technology and dual-fuel systems. Financial incentives for consumers, such as rebates, tax credits, and additional perks, can further encourage the adoption of alternative fuel vehicles, ensuring a smoother transition to sustainable energy in the land transport sector. Clear and consistent regulatory frameworks, supported by international harmonisation efforts, can reduce uncertainty and facilitate cross-border operations.

Educating consumers through public awareness campaigns and demonstration projects can address misconceptions and build confidence in alternative fuel technologies. When speaking to a researcher in the field of logistics and alternative fuels who had interviewed numerous haulage companies, he too felt that providing haulage companies with clear information about the costs associated with transitioning to alternative fuels versus continuing with traditional fuels, as well as transparency regarding incoming mandatory requirements and regulations, can significantly facilitate industry acceptance and adoption of alternative fuels. This clarity enables companies to make informed decisions by understanding the long-term financial and operational benefits, potential savings, and compliance necessities. Knowledge of regulatory timelines and standards helps companies plan their investments strategically, ensuring a smoother transition and reducing the perceived risks and uncertainties associated with adopting new technologies. This proactive approach can accelerate the shift towards sustainable practices, aligning with environmental goals and regulatory compliance, while also demonstrating the economic viability of alternative fuels.

Investing in research and development to improve the range, efficiency, and refuelling/recharging times of alternative fuel HGVs is crucial for promoting the wide scale industry adoption. This can involve advancements in battery technology, hydrogen storage, and fuel cell efficiency. Strategic planning and phased implementation of infrastructure projects can help build a cohesive network, with governments prioritising key logistics hubs and corridors for initial deployment. This ensures that early adopters have reliable access to refuelling and recharging points. Running trials of alternative fuel HGVs would also be

highly effective for real-world validation of technological advancements, allowing for the identification and resolution of practical issues. These trials provide valuable data on performance, reliability, and infrastructure needs, guiding further R&D and ensuring a smoother transition to wide-scale industry adoption. Educating logistics companies about the long-term benefits of alternative fuels, such as lower emissions and potential cost savings, can encourage adoption. Offering incentives for early adopters, such as reduced road taxes or toll exemptions, can also make the transition more attractive. These combined efforts can help create a more sustainable and resilient freight transport system, reducing the reliance on fossil fuels and lowering greenhouse gas emissions.

Additionally, promoting shared mobility solutions like car-sharing programs can significantly reduce the total number of vehicles on the road. Cities can invest in electric car-sharing fleets and expand access to charging infrastructure, particularly in underserved communities. Encouraging the use of public transportation, cycling, and walking, along with urban planning that reduces the need for individual car use, can further alleviate traffic congestion and environmental impacts. By addressing these barriers with a comprehensive approach that includes financial incentives, regulatory support, technological innovation, and promoting shared mobility, the land transport sector can move towards a more sustainable and efficient future.

In the maritime sector, the key barriers include the limited availability and high cost of alternative fuels like liquefied natural gas (LNG), hydrogen, and biofuels, coupled with the need for new bunkering facilities and retrofitting existing ports. Establishing new bunkering facilities and retrofitting existing ports for alternative fuels like LNG, hydrogen, and biofuels require significant capital investment. These fuels also necessitate specialised storage, handling, and refuelling systems, adding to the financial burden. Additionally, regulatory uncertainties and safety concerns regarding the handling and transportation of these fuels pose significant challenges, particularly with hydrogen and LNG which require rigorous standards and training to mitigate risks. Mitigating these barriers requires clear and consistent regulatory support and international cooperation to standardise safety procedures. Increased investment in research and development could lead to more cost-effective production and storage methods, while incentivizing early adopters through financial incentives and pilot projects can demonstrate the feasibility and benefits of alternative fuels in maritime operations.

The aviation sector faces barriers related to the technological maturity of alternative fuels and propulsion systems, with sustainable aviation fuels and electric propulsion still in early stages of development and requiring lengthy certification processes. Economic viability is also a concern, as alternative fuels are currently more expensive than conventional jet fuel, and the lack of economies of scale further complicates their adoption. Additionally, the need for new refuelling infrastructure at airports and complex logistics for global fuel supply chains present significant challenges. To overcome these barriers, collaboration between government and industry is essential, with joint funding for research and development projects and the formation of industry consortia to share knowledge and resources. Implementing economic incentives, such as carbon pricing mechanisms and subsidies for sustainable aviation fuels, can enhance their competitiveness. Strategic planning and investment in airport infrastructure and production facilities are also crucial for scaling up fuel availability and ensuring a smooth transition to alternative aviation fuels.

In summary, the successful deployment and use of alternative fuels in these sectors require a coordinated approach involving substantial investment, regulatory support, technological innovation, and consumer engagement. Addressing these barriers will involve a mix of financial incentives, strategic partnerships, regulatory frameworks, and public awareness campaigns to promote the adoption and integration of alternative fuels across land transport, maritime, and aviation sectors.

2. **Given the rapidly evolving policy and technological landscape, how best can we reduce or manage the risk to ensure that the deployment of alternative fuels infrastructure does not lead to the creation of stranded assets?**

The rapidly evolving policy and technological landscape, combined with the deployment of alternative fuels infrastructure, could lead to stranded assets if investments are made in technologies or facilities that become obsolete or non-compliant with new regulations. As advancements in alternative fuel technologies continue and policies shift to favour newer, more efficient, or environmentally friendly options, infrastructure that was once state-of-the-art can quickly become outdated. This risk is exacerbated by the high initial costs of building such infrastructure, making it crucial to adopt flexible, adaptive approaches and ensure investments remain relevant and resilient in the face of ongoing changes. Strategies that could be highly effective in mitigating the creation of stranded assets include:

- <u>Modular Legislation & Interim Standards:</u>
  Mitigating the risk of creating stranded assets in the deployment of alternative fuels infrastructure amid a rapidly evolving policy and technological landscape requires the development of flexible policies and regulatory frameworks that can adapt to technological advancements and market developments. One key strategy is to implement malleable legislation that allows for incremental updates, making it easier to incorporate new technologies and industry practices. Policies designed with built-in review periods and sunset clauses ensure periodic reassessment and adjustment based on technological progress and market trends. Additionally, implementing interim standards that allow for the early adoption and testing of new technologies while ensuring safety and compliance can add stability to the industry by providing a clear, adaptable framework. This approach enables companies to plan and invest with greater confidence, knowing that there are established guidelines that will evolve based on practical feedback and technological advancements. Regular consultations with industry stakeholders ensure these standards are continuously refined, making them more effective and relevant, thus fostering a stable environment conducive to innovation and long-term planning.

- <u>Financial Incentives:</u>
  Aligning financial incentives with long-term sustainability goals is crucial to fostering continuous improvement and innovation in alternative fuels infrastructure and in turn, mitigates the risk of stranded assets creation. Performance-based incentives play a significant role in this process by rewarding investments based on specific outcomes such as efficiency improvements, emissions reductions, and technological advancements. These incentives can take various forms, including financial grants or subsidies for projects that achieve high energy efficiency standards or reduce greenhouse gas emissions below a specified threshold. Tax credits can also be offered to

investments that demonstrate significant advancements in alternative fuels technology or infrastructure, encouraging companies to innovate and improve their offerings. Additionally, performance bonuses can be issued to companies that exceed regulatory requirements or set industry benchmarks in sustainability and efficiency, providing further motivation for excellence.

- International Harmonization:
  International harmonisation of standards and regulations is crucial for the effective deployment and utilisation of alternative fuels infrastructure, as it reduces regional discrepancies and facilitates cross-border operations. One of the primary strategies to achieve this is through the development and adoption of global standards. By collaborating with international regulatory bodies, countries can create unified standards that ensure compatibility and safety across different regions. These global standards can cover various aspects of alternative fuels infrastructure, including fuelling protocols, safety measures, and emissions standards. Harmonised standards simplify the compliance process for companies operating internationally, reducing the risk of stranded assets by ensuring that infrastructure investments are compatible and can be used universally.

Modular legislation, interim standards, performance-based financial incentives, and international harmonisation collectively mitigate the risk of stranded assets by ensuring that alternative fuels infrastructure remains adaptable, efficient, and universally compatible. Modular legislation allows for incremental updates to regulatory frameworks, accommodating technological advancements and market shifts without extensive overhauls. Interim standards provide a flexible framework for early adoption and testing of new technologies, ensuring safety and compliance while allowing for refinements based on real-world performance. Performance-based financial incentives encourage investments in sustainable and innovative technologies, driving continuous improvement and preventing over-reliance on any single, potentially obsolete solution.

International harmonisation of standards and regulations ensures compatibility and safety across regions, facilitating cross-border operations and investments. A clear roadmap detailing the position, applications and projected demand for each technology is crucial for directing infrastructure investment and bolstering industry confidence. This roadmap helps stakeholders understand the timeline and potential of different technologies, ensuring that investments are strategically aligned with future market needs and technological advancements. Together, these strategies create a dynamic, supportive environment that promotes resilient and future-proof infrastructure, reducing the likelihood of stranded assets as the alternative fuels market evolves.

3. **In what capacity and to what extent do you believe the EU/ Government/ public sector / private sector each hold responsibility for leading or supporting alternative fuels infrastructure deployment and reducing implementation barriers?**

The deployment of alternative fuels infrastructure and the reduction of implementation barriers require coordinated efforts across various sectors, each with distinct responsibilities. The European Union (EU) plays a crucial role in setting overarching goals, standards, and regulations that guide member states towards a unified approach. The EU develops and enforces consistent fuel quality, safety, and emissions standards, ensuring interoperability and compatibility across the region. It provides substantial funding through grants and loans, such as those from the Connecting Europe Facility (CEF) and Horizon Europe, to support

infrastructure projects and research initiatives. The EU also acts as a coordinating body to harmonise standards and practices among member states, facilitating cross-border infrastructure development and ensuring investments are efficient and compatible. Additionally, the EU supports large-scale research initiatives and pilot projects to advance new technologies and solutions, promoting innovation and scalability within the alternative fuels sector.

National governments are responsible for implementing EU directives at the local level, tailoring them to fit national contexts. They enact legislation and policies that align with EU directives, ensuring compliance and fostering a supportive environment for alternative fuels infrastructure. National governments allocate budgetary resources to subsidise infrastructure projects, provide tax incentives, and create public funds to support private investments in alternative fuels. They also develop strategic plans with specific targets, timelines, and responsibilities for the deployment of alternative fuels infrastructure, guiding national efforts and prioritising key areas. Moreover, national governments launch public awareness campaigns to educate citizens and businesses about the benefits and availability of alternative fuels, encouraging broader adoption and investment.

The public sector, including local governments and public institutions, plays a key role in the on-the-ground implementation of alternative fuels infrastructure. This includes investing in and developing public infrastructure, such as electric vehicle (EV) charging stations, hydrogen refuelling stations, and biofuel facilities, particularly in underserved areas to ensure equitable access. Public procurement policies could lead to the increased use of alternative fuels in public transportation fleets, municipal vehicles, and other public services, demonstrating leadership which in turn creates demand for alternative fuels. The public sector also ensures compliance with safety standards and regulations at the local level, providing oversight and enforcement to maintain infrastructure integrity and reliability.

The private sector is an important stakeholder in driving innovation, efficiency, and large-scale deployment of alternative fuels infrastructure. Companies and investors contribute by investing in the development, construction, and operation of alternative fuels infrastructure, leveraging private capital and expertise to scale up deployment. The private sector leads in research and development of new technologies, products, and services that enhance the efficiency, cost-effectiveness, and appeal of alternative fuels. By forming partnerships with public sector entities and other businesses, the private sector can share knowledge, resources, and risks, accelerating the deployment process and achieving greater impact. Additionally, private companies develop and market alternative fuel vehicles and related technologies, driving adoption and building a robust market for alternative fuels.

In conclusion, the successful deployment of alternative fuels infrastructure hinges on a collaborative and multi-sectoral approach. The European Union sets the foundation by developing overarching goals, standards, and regulations, and by providing substantial funding to support infrastructure projects and research. National governments play a crucial role by implementing EU directives locally, tailoring policies to national contexts, and promoting public awareness. The public sector is key in executing these plans, investing in local infrastructure, and ensuring compliance with standards. Universities are also well placed to develop technology alongside industry players, potentially utilising European funding. The private sector can also drive innovation, leveraging capital for the development and expansion of new technologies, and enhancing market dynamics for alternative fuels.

4. **How best can we monitor the development of the alternative fuels market to ensure a level playing field for new market actors, and avoid business practices that may limit competition or misguide consumers and hamper price transparency?**

Monitoring the development of the alternative fuels market to ensure a level playing field for new market actors, prevent anti-competitive practices, and maintain price transparency involves a comprehensive approach across several key areas. One of the foundational strategies is the establishment of clear regulatory frameworks. Governments and regulatory bodies must develop robust regulations that promote fair competition and prevent monopolistic behaviour. Strengthening anti-competitive practice laws is essential to prevent market dominance by a few large players, ensuring new entrants can compete on equal terms. Simplifying the process of obtaining permits and licences can facilitate easier market access for new companies. Additionally, implementing transparency requirements that mandate companies to provide clear and accurate pricing and product information can help consumers make informed decisions.

However, simply introducing regulatory frameworks is not enough. Active monitoring and enforcement of these regulations is crucial. Regulatory bodies need to conduct regular market surveillance, including routine audits, inspections, and data collection, in order to detect and address anti-competitive practices. Encouraging whistleblowers to report unfair practices by offering protections and incentives could also provide an additional layer of oversight. In addition to this, imposing significant penalties and sanctions on companies found guilty of anti-competitive behaviour would serve as a strong deterrent. These measures collectively ensure that the market remains competitive and fair.

Supporting startups and small businesses is another effective means of mitigating anti-competitive practices by enabling more players to enter the market. Supporting startups and small businesses in the alternative fuels sector is also crucial for fostering innovation and market dynamism. Governments and industry bodies can implement a range of targeted support programs to help these companies overcome financial barriers and scale their operations. One effective approach is providing grants and low-interest loans specifically tailored to the needs of startups. This aimed at reducing their financial burden and enabling them to invest in research and development. Additionally, creating dedicated funding streams such as venture capital funds focused on clean energy and alternative fuels, can attract private investment into the sector. Whilst interviewing a scholar in this field, he shared this belief asserting that supporting startups and small businesses in the alternative fuels market can mitigate anti-competitive practices by creating a diverse and dynamic market environment. Financial incentives, grants, and access to business incubators play a crucial role in this support. He called for increased access to business incubators as they provide startups with essential resources such as mentorship, networking opportunities, and access to infrastructure, which can significantly lower entry barriers and help them compete with larger, established firms. He felt that by fostering a competitive landscape with a variety of innovative solutions and transparent pricing, these smaller entities prevent market monopolies and ensure consumers have access to reliable information and multiple choices. This competitive pressure drives innovation, efficiency, and fair pricing, ultimately benefiting the entire market ecosystem. By fostering a supportive ecosystem through these initiatives, governments and industry bodies can ensure that innovative small businesses and startups thrive, driving technological advancement and contributing to the overall growth and competitiveness of the alternative fuels market.

Implementing stringent reporting requirements and empowering state bodies like The Commission for Regulation of Utilities (CRU) to monitor the alternative fuels market could also significantly enhance transparency and bolster competition. These regulatory measures ensure that all market participants provide regular, accurate data on pricing, supply, and operational practices. By analysing this data, the CRU can detect and prevent anti-competitive behaviours and misleading practices that could harm consumers and stifle innovation. Establishing robust regulatory frameworks, supporting startups and small businesses, implementing stringent reporting requirements, and empowering state bodies like The Commission for Regulation of Utilities are crucial steps in ensuring a level playing field in the alternative fuels market. These measures promote transparency, fair competition, and innovation by providing clear guidelines and oversight. Regular monitoring and data analysis prevent anti-competitive practices and misinformation, enabling new market entrants to compete fairly and consumers to make informed decisions. Together, these strategies foster a dynamic, transparent, and sustainable market environment.

References:

1. Plant-O'Toole, E. et al. (2020) Transport Policy Review: Where does Ireland stand on Climate Change for Transport and Logistics Sectors? The Chartered Institute of Logistics and Transport Ireland. Available at: https://www.cilt.ie/Portals/0/adam/FAQ with Categories/wWhtW3282ki7o6tyNphucg/DocumentLink/Paper 1_Policy Review_Final Report_v10.pdf.

2. The Guardian, 2021. Environmental impact of electric cars. [online] Available at: https://www.theguardian.com/environment/2021/jun/11/environmental-impact-of-electric-cars.

3. Energy.gov, 2021. Reducing the impact of electric vehicles. [online] Available at: https://www.energy.gov/eere/electricvehicles/reducing-impact-electric-vehicles.

4. Nature, 2020. The lifecycle emissions of electric vehicles. [online] Available at: https://www.nature.com/articles/s41586-020-1991-1

.

5. World Resources Institute, 2021. Urban transportation planning. [online] Available at: https://www.wri.org/insights/urban-transportation-planning.

6. Biofuels International, 2022. *Coca-Cola switches Netherlands truck fleet to HVO*. [online] Available at: https://biofuels-news.com/news/coca-cola-switches-netherlands-truck-fleet-to-hvo .

About CILT Ireland

The Chartered Institute of Logistics and Transport in Ireland (CILT) is the independent professional body for people engaged in the provision of transport services for both passengers and freight, the management of logistics and the supply chain, transport planning, government, and administration. CILT is a member of the wider CILT International family which has offices

in over 30 countries and 33,000 members worldwide. CILT has a number of specialist forums, a nationwide structure of locally based groups and a Policy Committee which considers the broad canvass of transport policy. As a professional body, CILT does not lobby on behalf of any sectoral interest, but seeks to take an independent, objective and considered view on matters of public policy.

CILT Policy Committee Email: Policy@cilt.ie
For more information, please visit: https://www.cilt.ie/Policy

Acknowledgement:
Thanks to Dr Nikolaos Valantasis of TU Dublin for his contributions to this paper.

About the Authors:

Dr Eoin Plant-O'Toole, Policy Committee Chair
Eoin is Associate Professor of Logistics and Supply Chain Management at Edinburgh Napier University. He previously led the National Institute for Transport and Logistics (NITL) at Technological University Dublin. He previously worked with a number of UK universities. Eoin has carried out research and published peer-reviewed journal articles on sustainable supply chains, collaboration, and urban logistics.

Chiagoziem Ozoani (Chaggie), Policy Researcher
Chaggie is a Policy Researcher and an aspiring Ph.D. candidate with his research being focused on promoting circular economies amongst logistics firms from a value creation perspective. He holds an MSc degree in Business Management Strategy from Dublin City University. He also works for Sysco Ireland as an Operations Project Specialist driving operational excellence within the company.

Xu Zhang (Sabrina), Policy Committee Member
Sabrina is a Ph.D. candidate at Technological University Dublin in Ireland. Her current doctoral research focuses on sustainable urban logistics. She holds an MSc degree in logistics and supply chain management from Cranfield University in the UK. Sabrina previously worked as a research assistant at the Asian Institute of Supply Chains and Logistics at the Chinese University of Hong Kong.

Rachel Ivers, Policy Committee Deputy Chair
Rachel is a Public Transport Analyst in the National Transport Authority. She previously worked in engineering consultancies in Ireland and the Netherlands. She gained her BSc. in Spatial Planning from DIT and MSc in Transport, Infrastructure and Logistics from Delft University of Technology, the Netherlands. She is also a committee member of the Irish branch of the Transport Planning Society.

Tim Hayes, Education and Training Committee Chair

Tim is a member of the Institute's Council, Policy Committee, and is Chair of its Education and Training Committee. Former CEO of Bus Eireann and CILT in Ireland. Over forty-five years has held a range of senior management positions in transport and tourism and has lectured at third level. He holds BE, M.Eng.Sc. and MBA degrees and is a Fellow of the Institute.

Joe Kenny, CEO of CILT Ireland

Joe has for the last three years been the CEO of the Chartered Institute of Logistics and Transport (CILT). Additionally, Joe has vast experience of a variety of transport and logistics organisations in different sectors, including UITP (International Association of Public Transport) and the European Logistics Association.