



# Annual Review 2024

## Transport

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CLIMATE  
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COUNCIL

# Annual Review 2024: Transport

Submitted to the Minister for the Environment, Climate and  
Communications on 24 June 2024

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## Summary for All

In this third part of the 2024 Annual Review, the Climate Change Advisory Council outlines detailed observations and recommendations for the Transport sector – the second largest source of greenhouse gas emissions in Ireland. Reliance on fossil fuels needs to end for the sector to reduce its emissions in line with climate objectives. Recent data indicate a slight increase in emissions in 2023<sup>a</sup> and, even with full implementation of proposed policies and measures, the sector is projected to exceed its sectoral emissions ceiling.

Demand for petrol, diesel and jet kerosene all increased in 2023, and the total number of vehicles continues to grow, with sales still dominated by petrol and diesel models and larger vehicles. Sales of battery electric vehicles showed promising growth in 2023, accounting for almost a fifth of the new vehicle market; however, early indications in 2024 point to a reversal of this trend.

The increase in emissions in 2023 was somewhat limited by a significant increase in public transport use (up 24% on 2022 levels), supported by a considerable expansion in rural bus services and continuing 20% reductions in fares.

### Key recommendations

- ▶ The Council strongly recommends that the Government urgently conducts a full review of taxation in the Transport sector (including vehicle registration tax, motor tax, excise duty, carbon tax, fuel pricing and distance-based charges) to ensure that taxation policy for households and businesses supports emission targets, is aligned with climate objectives, promotes energy efficiency and minimises negative impacts on society.
- ▶ Government and local authorities should reallocate road space to provide better access for more sustainable modes of transport, such as walking, cycling or taking a bus. Public transport services need to improve, and more public engagement is needed to understand the barriers people face in making sustainable transport choices.
- ▶ The Government must urgently complete the planning reform necessary to:
  - ▶ ensure that new developments reduce transport demand by placing homes, workplaces, public services and leisure spaces closer to each other and nearer to public and active transport (e.g. walking and cycling) infrastructure,
  - ▶ speed up the delivery of major public and active transport infrastructure projects and minimise the costs and delays associated with the planning process.
- ▶ Local authorities must have the support and guidance from Government that they need to reduce transport demand and emissions, with locally implemented measures such as low-emission zones and provision of shuttle bus services or incentives to promote carpooling.

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**a** Emissions for the Transport sector do not include international aviation or navigation.



- ▶ The number of car journeys to and from schools needs to be reduced by significantly expanding the School Transport Scheme and continuing work to increase the number of pupils walking and cycling to school.
- ▶ The Government needs to prioritise measures and investments to strengthen the resilience of ports and critical roads and railways to the future impacts of climate change such as more intense rainfall events and sea level rise.



## Abbreviations

BEV	battery electric vehicle
CSO	Central Statistics Office
DHLGH	Department of Housing, Local Government and Heritage
DoT	Department of Transport
EPA	Environmental Protection Agency
ESAB	European Scientific Advisory Board on Climate Change
ESRI	Economic and Social Research Institute
EV	electric vehicle
HGV	heavy goods vehicle
ICE	internal combustion engine
NPF	National Planning Framework
NTA	National Transport Authority
PHEV	plug-in hybrid electric vehicle
PSO	Public Service Obligation
RES-T	renewable energy share in transport sector
SEAI	Sustainable Energy Authority of Ireland
SUV	sport utility vehicle
TCO	total cost of ownership
TFI	Transport for Ireland
VRT	vehicle registration tax
WAM	with additional measures
WEM	with existing measures
ZEVI	Zero Emission Vehicles Ireland



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## Key observations

- ▶ Based on the Sustainable Energy Authority of Ireland’s Interim Energy Balance, an increase in Transport sector emissions of 0.2% is estimated for 2023, which, on top of a 6% increase in 2022, would mean that approximately 34.7 Mt CO<sub>2</sub> eq or 64% of the sectoral ceiling had been used by the end of 2023.
- ▶ The latest Environmental Protection Agency projections indicate that, under both the ‘with existing measures’ (WEM) and ‘with additional measures’ (WAM) scenarios, the sector will exceed its 2021–2025 sectoral ceiling by just under 4 Mt CO<sub>2</sub> eq or 7%. The 2026–2030 sectoral ceiling is projected to be exceeded by 20 Mt CO<sub>2</sub> eq under the WEM scenario and by 12 Mt CO<sub>2</sub> eq under the WAM scenario.
- ▶ In 2023, road transport demand for diesel and petrol increased by 1% and 7.7%, respectively. The increase in biofuel blending in 2023 with the roll-out of E10 blended petrol partially displaced fossil fuel demand.
- ▶ A total of 1.36 billion litres of jet kerosene was used in Ireland in 2023, an increase of 12.7% on 2022; however, international aviation emissions are not currently included in national inventories.
- ▶ The total number of vehicles continues to grow, with sales of fossil fuel internal combustion engine vehicles continuing to dominate. While sales of battery electric vehicles (BEVs) are in line with targets to 2025 (representing approximately 19% of vehicles sales in 2023), they now represent only 2.41% of private cars. A decline in BEV sales was also observed in the first part of 2024.
- ▶ Positive developments in 2023 included a 24% increase in public transport use, a significant increase in new rural bus service provision through Connecting Ireland and Local Link, and a 20% average fare reduction on Public Service Obligation services. Increased public transport use would be expected to have moderated transport energy demand and emissions in 2023.

## Key recommendations

- ▶ A comprehensive review of taxation in the Transport sector by the Department of Finance across all vehicle categories (including vehicle registration tax, motor tax, excise duty, carbon tax, fuel pricing and distance-based charges) is required by the end of the first carbon budget in 2025 to ensure that taxation policy supports emission reduction targets, is aligned with climate objectives, promotes energy efficiency and minimises negative impacts on society. This review should ensure that households and businesses are incentivised to choose zero-emission vehicles at the point of purchase and encourage reductions in fossil fuel use. More immediately, as part of Budget 2025, the Government should revise the taxation of company cars to further incentivise the adoption of BEVs.





- ▶ Levels of transport demand are influenced by settlement patterns and planning policy. The provision and accessibility of public transport and active travel infrastructure are directly linked to the spatial distribution and density of settlement patterns. In the review of the National Planning Framework (NPF) being carried out by the Department of Housing, Local Government and Heritage (DHLGH) in 2024, the Council recommends a significant increase in compact growth targets and greater specificity in terms of how compact growth is measured. The role of Transport-oriented Development in delivering compact growth needs to be strengthened in the NPF, along with the provision of appropriate funding and governance arrangements for its delivery. It is critical that DHLGH concludes this review as soon as possible.
- ▶ Timely enactment and implementation of the revised Planning and Development Bill by Government, including statutory timelines for making planning decisions, will be critical to minimise delays in the delivery of major public transport and active travel infrastructure projects. The timelines for the delivery of major public transport infrastructure projects, including BusConnects, Luas expansion and upgrades to the rail network across the country, remain a significant challenge, and increased ambition for public transport capital investment should be supported through the next update to the National Development Plan and ongoing fiscal support.
- ▶ The Council urges the finalisation and early implementation of the critical actions identified in the draft Moving Together Strategy by Government, particularly the development of guidance for local authorities and the preparation of tailored local area demand management schemes; these should be a priority action of the strategy given the vital role that local authorities play in transport decarbonisation. Timely delivery of actions across all aspects of the plan will need to be supported by a well-resourced, system-wide implementation mechanism. This will require a whole-of-Government approach, including local government, and enterprise and community/citizen buy-in to ensure delivery.
- ▶ The Government needs to disincentivise the use of private cars and internal combustion engine vehicles in particular and support and enable road space reallocation at both local and national levels to promote more sustainable modes of transport and reduce congestion. Major projects such as BusConnects need to continue to address service speed, frequency and accessibility. The Council supports initiatives to enhance public participation and further engagement to improve understanding of barriers to modal shift at local and national levels, as set out in the Department of Transport's Public Engagement Strategy.
- ▶ Car journeys to and from schools are a significant driver of transport demand in Ireland, and Census 2022 indicates that over 50% of students travel to places of education by car. The Council supports significant expansion of the School Transport Scheme by the Department of Education and further progress on the Safe Routes to School Programme by the National Transport Authority in 2024 and 2025.
- ▶ Measures to strengthen Irish ports' resilience to climate change should be prioritised by the Department of Transport in the revised National Ports Policy, and it should ensure that all ports take a harmonised approach to the integration of climate risks in their operations, planning, infrastructure investments and decision-making.



- ▶ Critical roads and railways that are vulnerable to flooding should be identified and prioritised for climate proofing, with sufficient funding made available, including through dedicated investment programmes from the Department of Transport and Iarnród Éireann. Fit-for-purpose drainage systems that integrate the use of proven nature-based solutions should be prioritised for these critical roads and railways so that they will be resilient to more frequent and intense rainfall events.



## 1. Introduction

The Transport sector represents the second largest source of greenhouse gas emissions in Ireland, with emissions of 11.75 Mt CO<sub>2</sub> eq in 2022.<sup>[1]</sup> Passenger cars were responsible for 49% of road transport emissions, with heavy goods vehicles (HGVs) responsible for 21%, light goods vehicles for 22% and buses for 8%.<sup>[1]</sup>

## 2. Sectoral emissions ceiling and key Climate Action Plan targets

The Transport sector needs to achieve a 50% reduction in emissions by 2030 (relative to a 2018 baseline), which equates to a target emissions level of approximately 6 Mt CO<sub>2</sub> eq in 2030. A total of 42% of the first sectoral emissions ceiling (54 Mt CO<sub>2</sub> eq) for the Transport sector had been expended by the end of 2022 (Table 1). Based on the Interim 2023 National Energy Balance, an estimated 34.7 Mt CO<sub>2</sub> eq or 64% of the sectoral emissions ceiling had been used by the end of 2023.

**Table 1: Reported Transport sector emissions for 2021–2022 in the context of the sectoral emissions ceiling (SEC) for the first carbon budget period, 2021–2025.**

(Sources: Ireland’s Final Greenhouse Gas Emissions 1990–2022.<sup>[1]</sup> Ireland’s Greenhouse Gas Emissions Projections 2023–2050.<sup>[2]</sup>)

Carbon budget period	SEC	Reported emissions 2021–2022	Projected emissions 2023	SEC used 2021–2023 (%)
2021–2025	54 Mt CO <sub>2</sub> eq	22.84 Mt CO <sub>2</sub> eq	11.78 Mt CO <sub>2</sub> eq	64.1%

Progress against key indicators under the Climate Action Plan 2024 is shown in Table 2. The latest Environmental Protection Agency (EPA) projections<sup>[2]</sup> indicate that under the ‘with additional measures (WAM)’ scenario<sup>a</sup> the sector will exceed its 2021–2025 sectoral ceiling by 4 Mt CO<sub>2</sub> eq and its 2026–2030 sectoral ceiling by 12 Mt CO<sub>2</sub> eq.

**a** Within the EPA projections, the ‘with existing measures’ (WEM) scenario accounts for the anticipated impact of policies and measures that were in place (and provided for in legislation and/or with resources) by the end of 2022. The WAM scenario also accounts for planned policies and measures that have not yet been implemented.



**Table 2: Progress on key national Climate Action Plan targets as at the end of 2023.**

(Sources: 1, Table THA10.<sup>[3]</sup> 2, Interim National Energy Balance for 2023.<sup>[4]</sup> 3, Tables THA25 and TII01.<sup>[5]</sup> 4, European Alternative Fuels Observatory data.<sup>[6]</sup>) \*This total includes vehicle-km travelled by both passenger cars and goods vehicles. Passenger car-km travelled decreased by 3% in 2022 compared with 2018, but goods vehicle-km travelled increased by 16% compared with 2018. \*\*Central Statistics Office weekly data for passenger journeys by public transport are only available from 2019; available data up to week 39 of each year were used. BEV, battery electric vehicle; EV, electric vehicle; ktoe, kilotonnes of oil equivalent (the amount of energy released by burning 1000 tonnes crude oil); PHEV, plug-in hybrid electric vehicle; PSO, Public Service Obligation

	Total vehicle-km (vs 2018) <sup>1*</sup>	Fuel deliveries (ktoe of fuel vs 2018) <sup>2</sup>	Sustainable transport trips (no. public transport trips vs 2019) <sup>3**</sup>	Fleet electrification (no. passenger BEVs/PHEVs) <sup>4</sup>	Fleet electrification (no. electric buses) <sup>4</sup>	Fleet electrification (no. commercial BEVs) <sup>4</sup>
2022	1%	-4.7%	-3%	35,713 BEVs 25,318 PHEVs	13	2227
2023	-	-4.1%	21%	57,367 BEVs 35,785 PHEVs	61	3205
2025 target	n/a	n/a	+125,000 sustainable journeys	175,000 passenger EVs	300 electric buses in PSO bus fleet	20,000 commercial EVs
2030 target	20% reduction	50% reduction	130% increase in daily public transport journeys	845,000 passenger EVs	1,500 electric buses in PSO bus fleet	95,000 commercial EVs

### 3. Progress on previous Climate Change Advisory Council recommendations

In 2023, the Council highlighted the link between the transport system and planning and stressed the need to make accessible, sustainable transport modes more attractive and to shift away from car dependency, through consideration of the proximity between people and their destinations in land use and housing planning. The importance of including ambitious compact growth targets in the revised National Planning Framework (NPF) and incentives for urban brownfield and infill development were also highlighted. The Council regrets the delay in the publication of the revision of the NPF, due in early 2024, and therefore cannot review progress against these recommendations.

The Council welcomes the significant increase in public transport services and their uptake in 2023; however, the roll-out of 800 fully electric buses should be advanced. Urgent finalisation and implementation of the Moving Together Strategy will be critical, as will the implementation of the All-Island Strategic Rail Review, following its finalisation in 2024.

In its Annual Reviews in 2022 and 2023, the Council recommended revisions to vehicle registration tax (VRT) and motor tax to support the transition to a sustainable transport system and regrets



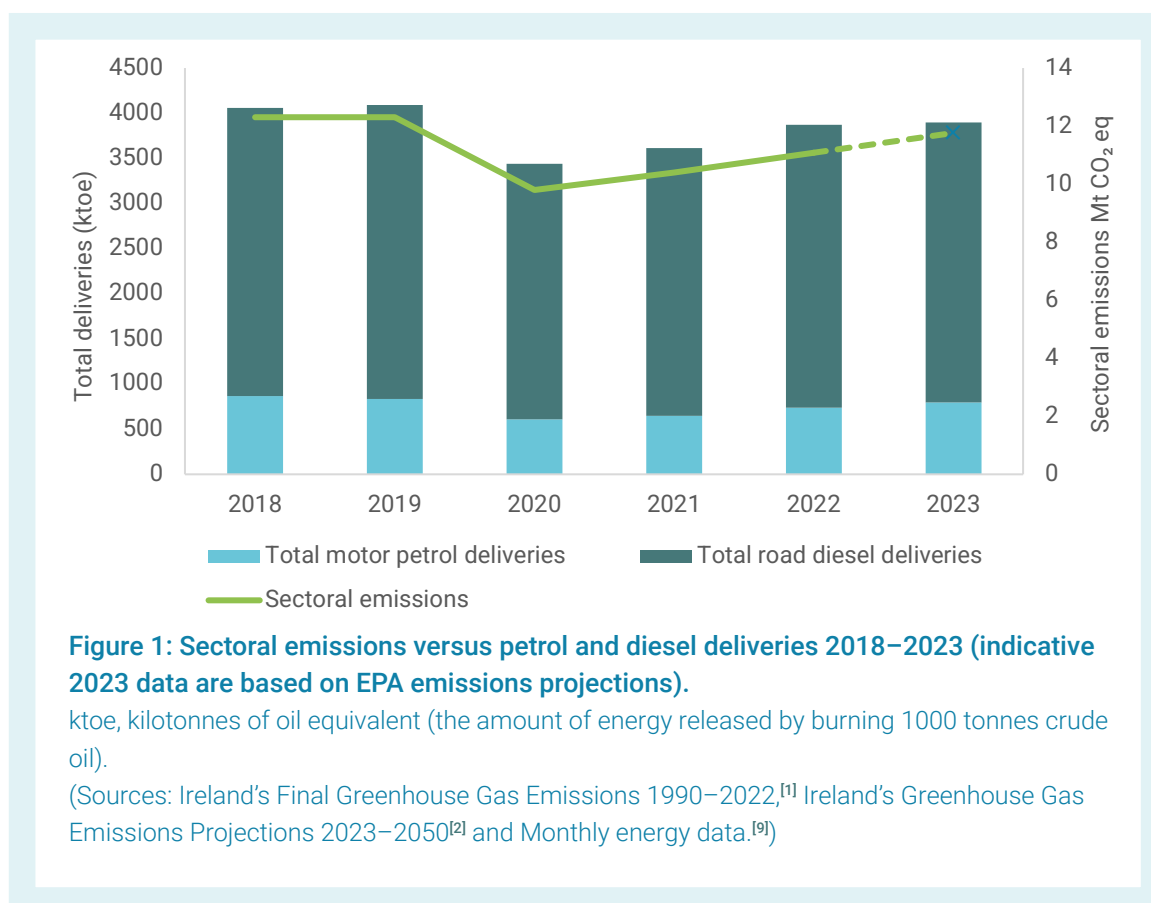
that this has not been addressed. Therefore, the Council again makes a number of recommendations in relation to fiscal and taxation measures in this sectoral review.

In its 2023 Annual Review, the Council made a number of recommendations in relation to workplace parking. The Council urges rapid availability of the national parking data inventory, which collates information on parking availability and charges in urban centres along with a review of existing legislation to support a reduction in car parking use where sustainable travel alternatives are available. The Council also made several recommendations in relation to the sustainability of biofuels and emissions from international aviation in its 2022 and 2023 Annual Reviews and will track the progress of the working groups established under the Renewable Transport Fuel Policy 2023–2025 to develop a Sustainable Aviation Fuel roadmap for Ireland.

## 4. Indicators

### 4.1 Transport emissions and main trends

In both 2021 and 2022, transport emissions increased by more than 6% per annum (shown in Figure 1).<sup>[7]</sup> In 2023, road transport demand for diesel and petrol increased by 1% and 7.7%,<sup>b</sup> respectively, with an estimated 0.2% increase in transport emissions in 2023 (excluding international



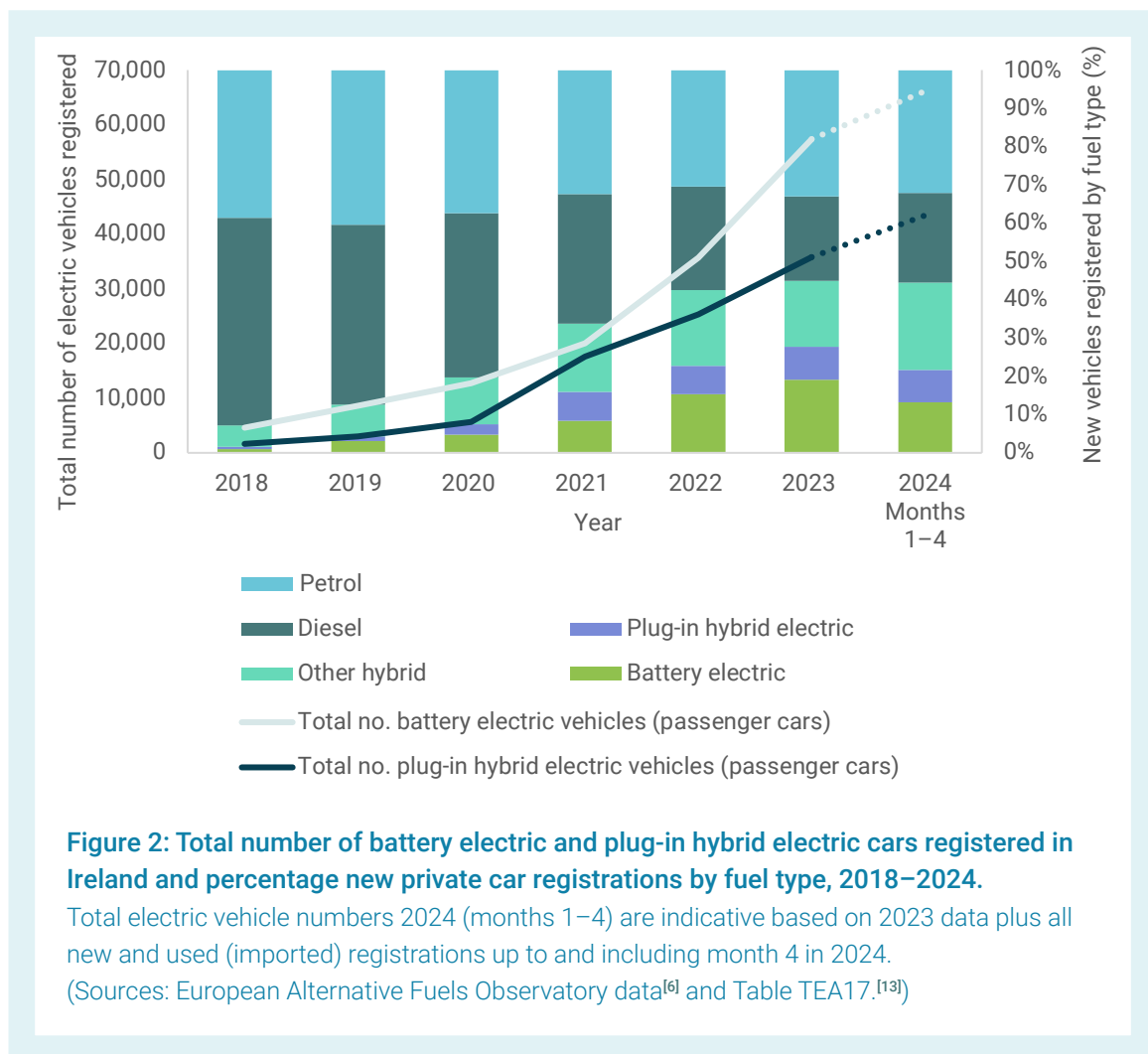
**b** Cross-border demand for fuel from Northern Ireland, based on petrol and diesel sales in Ireland, has in previous years contributed to Ireland’s national greenhouse gas emissions. Fuel tourism accounted for 3.9% of final energy demand in 2022, a decrease of 6.4% compared with 2021, based on the 2023 SEAI Energy in Ireland report.<sup>[100]</sup> In 2023 and 2024, the price of diesel in Ireland and Northern Ireland appeared similar, based on fuel excise changes, but was slightly higher for petrol in Ireland. This is an area the Council will continue to monitor.



aviation and navigation).<sup>[8]</sup> In 2023, 1.36 billion litres of jet kerosene was used in Ireland, an increase of 12.7% on 2022 and the highest annual demand ever recorded.

Under the recast Energy Efficiency Directive,<sup>[10]</sup> there is a legally binding target to reduce final energy consumption across the EU by 11.7% by 2030 relative to 2020. Transport is the most significant contributor to final energy consumption in the EU. The revised Renewable Energy Directive (REDIII; (EU) 2018/2001) came into force in 2023 and contains a target of 29% renewable energy share in transport sector (RES-T) for Member States by 2030; Ireland’s RES-T was 5.5% in 2022.

At the end of 2023, approximately 48% of the Climate Action Plan target of 195,400 electric vehicles (EVs) by 2025 and less than 10% of the 2030 policy target of 944,600 vehicles had been achieved. However, in the first part of 2024 the growth in the share of new vehicle registrations that were EVs dropped<sup>[11]</sup> (Figure 2). In line with EU targets,<sup>[12]</sup> sales of new internal combustion engine (ICE) vehicles will end in 2035. Strong measures are needed to discourage the purchase of new and used imported ICE vehicles to avoid locking in future demand for fossil fuels and consumers being left behind, along with encouraging a shift to sustainable transport.



**Figure 2: Total number of battery electric and plug-in hybrid electric cars registered in Ireland and percentage new private car registrations by fuel type, 2018–2024.**

Total electric vehicle numbers 2024 (months 1–4) are indicative based on 2023 data plus all new and used (imported) registrations up to and including month 4 in 2024. (Sources: European Alternative Fuels Observatory data<sup>[6]</sup> and Table TEA17.<sup>[13]</sup>)



## 5. Analysis and discussion

This section assesses progress in the Transport sector in 2023 and early 2024 under the Avoid–Shift–Improve (ASI) framework. **Avoid** measures include consideration of spatial and planning policy and measures to reduce transport demand. **Shift** measures include encouraging a behaviour shift towards using sustainable travel modes, including public transport and active travel. **Improve** measures include the transition to EVs and higher penetration of biofuels in the fuel mix.

### 5.1 Taxation and fiscal measures

Taxation and fiscal measures impact on the cost of travel across different modes and also reflect negative external costs to the economy and environment.

In its Annual Review 2023, the Council recommended strengthening the current VRT and motor tax system to promote resource- and energy-efficient vehicles. The Council recommends that the Department of Finance urgently carries out a comprehensive review of taxation in the Transport sector across all vehicle categories (including VRT, motor tax, excise duty, carbon tax, fuel pricing and distance-based charges) to ensure that taxation policy supports emission reduction targets, is aligned with climate objectives, promotes energy efficiency and minimises negative impacts on society, including congestion, air pollution and emissions. This review should ensure that households and businesses are incentivised to choose zero-emission vehicles at the point of purchase and encourage reductions in fossil fuel use. It should encompass all vehicles, including goods vehicles, buses, non-road mobile machinery and other vehicles that are currently not subject to an emissions-based VRT.<sup>[14]</sup> More immediately, as part of Budget 2025, the Government should revise the taxation of company cars to further incentivise the uptake of battery electric vehicles (BEVs).

Implementing fiscal measures for passenger and commercial vehicles needs to account for distributional impacts across society.<sup>[15]</sup> The Climate Action Plan 2024 commits to integrating Just Transition principles across climate policy development to ensure that ‘the cost of climate action will be shared equitably across society’.<sup>[16]</sup>

The equalisation of diesel and petrol excise rates has been repeatedly called for by the Council, as well as by the Joint Oireachtas Committee on Climate Action, the European Commission and the Commission on Taxation and Welfare.<sup>[17–19]</sup> The current Diesel Rebate Scheme<sup>[20]</sup> is not consistent with Ireland’s emission reduction objectives and the Organisation for Economic Co-operation and Development has called for it to be phased out.<sup>[21]</sup> This will need to be considered along with the ongoing development of the Energy Taxation Directive and support for the transition of the Freight sector, as outlined in *Section 5.5*.

Continued sales of less efficient, heavier and wider ICE vehicles<sup>[22]</sup> will make the transport sectoral emissions ceiling more difficult to achieve in addition to increasing the risks to the safety of other road users<sup>[23,24]</sup> The International Energy Agency (IEA) has noted that sport utility vehicles (SUVs), which accounted for 48% of global car sales in 2023, typically weigh 200–300 kg more than an average medium-sized car, take up 0.3 m<sup>2</sup> more space and emit approximately 20% more CO<sub>2</sub>.<sup>[25]</sup> Large SUVs accounted for 4.41% of sales nationally in 2023 and 4.59% in Dublin specifically.<sup>[26]</sup> A new EU regulation on the CO<sub>2</sub> emission performance standards for new cars and vans was agreed in 2023 (Regulation (EU) 2023/851). This increases the required reduction in average CO<sub>2</sub> emissions for new cars to 55% in 2030 compared with 2021 levels and requires EU car manufacturers to reduce new car emissions to zero by 2035.<sup>[27]</sup> The European Scientific Advisory Board on Climate Change (ESAB) has noted that current legislation incentivises car manufacturers to prioritise the development and sale of larger BEVs and that larger models account for the majority (60%) of all BEV models on the EU market.<sup>[28]</sup>



## 5.2 Avoid

The two key elements considered here are planning policy and demand management.

### 5.2.1 Planning and public transport infrastructure

Levels of transport demand are influenced by choices relating to settlement patterns and planning policy.<sup>[29]</sup> Dispersed settlement patterns make the provision of public transport infrastructure and a shift to more active modes of travel more challenging.<sup>[30]</sup> Volume 4 of Ireland's Climate Change Assessment<sup>[31]</sup> suggests that new developments can significantly reduce greenhouse gas emissions while achieving a high quality of life by creating compact, co-located and walkable urban areas with mixed land use and transit-oriented design, while preserving existing green and blue assets. The ESAB also notes the importance of spatial planning policies to promote more compact urban areas as part of the solution to curbing growth in overall transport demand.<sup>[28]</sup>

The 2022 National Household Travel Survey, conducted by the National Transport Authority (NTA), includes a question on the amenities located within a 15-minute walk of the respondent's home; for example, the results showed that the majority of respondents live within a 15-minute walk of a shop (74%) or bus stop (67%).<sup>[32]</sup> In rural areas, the majority of respondents do not live within walking distance of each of these amenities, and access to public transport in particular was reported to decline between the 2017 and 2022 surveys. The move to annual surveys will allow for an important assessment of the impact of recent policy interventions such as the deployment of Local Link bus services on this indicator. The Central Statistics Office (CSO) has developed indicators on the average distance to everyday services based on the average distance from residential dwellings to services such as schools, hospitals and the nearest bus stop, based on the 2016 Census results. This is an important piece of analysis to be updated based on the findings of the 2022 Census, as it provides granular data across all geographies, and the Council recommends that the CSO progresses this work as a priority. The NTA is also developing the Public Transport Accessibility Level tool<sup>c</sup> and other connectivity tools that will be important for monitoring the level of access to the public transport network and informing planning and infrastructure decisions quantitatively.

A study in Dublin<sup>[33]</sup> specified optimum locations for Transport-oriented Development (which maximises the provision of housing, employment, public services and leisure space within close proximity to high-quality and frequent transport services) and recommended that appropriate funding and governance arrangements for delivery are put in place, which is relevant to the revision of the NPF.

Metropolitan area transport strategies (MATS) set out programmes for sustainable transport investment for each city and are renewed every 6 years. Within the Greater Dublin Area, the NTA has the statutory role of ensuring that Local Area Plans and County Development Plans are in line with the Transport Strategy. Outside the Greater Dublin Area, the metropolitan area transport strategies are currently non-statutory plans developed by the NTA in cooperation with the relevant local authorities and other agencies.<sup>[34]</sup> The Council is concerned that the Department of Transport (DoT) has not

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**c** The Public Transport Accessibility Level tool was initially designed by Transport for London along with a suite of connectivity tools to assess the level of accessibility provided by the London transport network and is currently being adopted by the NTA for use in Ireland to provide an overall indicator of the accessibility of sustainable transport across the Irish transport network that can be used by agencies and local authorities. The tool measures the connectedness of an area to the public transport network by combining spatial data on walking/cycling journey times to public transport stops, taking account of the frequency and level of services at each stop.





yet amended the legislation to extend the remit of the NTA to the remaining four cities in Ireland, an action that has been delayed since the Climate Action Plan 2023.

The review of the NPF being carried out by DHLGH in 2024 offers an opportunity to rethink how Ireland approaches compact growth. The Council recommends a significant increase in compact growth targets and greater specificity in terms of how compact growth is measured. The role of Transport-oriented Development in delivering compact growth needs to be strengthened in the NPF and accompanied by appropriate funding and governance arrangements for its delivery. It is critical that DHLGH concludes this review as soon as possible.

### 5.2.2 Demand management

Demand management relates to measures to make the overall transport system more efficient by reducing the demand for unsustainable journeys and decoupling transport demand from an increasing population and growing economy. The ESAB noted in a recent report that current strategies to reduce emissions in the Transport sector across the EU have been ineffective, as incremental efficiency improvements and fuel switching have been outpaced by increased transport demand.<sup>[28]</sup> Modelling carried out by the Sustainable Energy Authority of Ireland (SEAI) assumes that the Climate Action Plan target of a 20% reduction in kilometres travelled by all road vehicles will be met through demand management measures leading to a 15% (5.8 TWh) reduction in transport final energy use.<sup>[12]</sup> Combined with a 50% reduction in fuel usage, this is expected to deliver an abatement of 2.09 Mt CO<sub>2</sub> eq by 2030.<sup>[35]</sup>

Public acceptance and behavioural changes will be vital to the success of demand management measures and will require adequate infrastructure provision and effective communication of the wider societal benefits for health, air quality and reduced noise pollution.<sup>[12]</sup> A recent study estimated the annual economic cost of congestion in the Greater Dublin Area at €336 million in 2022, rising to about €1.5 billion in 2040.<sup>d[36]</sup> Benefits also include reducing congestion and re-prioritising public space for active, shared and public transport modes. Demand-oriented transport policy design must consider the implications of transport poverty by way of supporting a just and fair transition.<sup>[37]</sup> In an EU context, policy measures including congestion charging, parking and traffic control, and limiting traffic in certain zones have been found to be some of the most effective measures for reducing private car use.<sup>[38]</sup>

The Council supports many of the proposals in the draft Moving Together Strategy for demand management developed by the DoT, NTA, TII (Transport Infrastructure Ireland), local authorities and others, particularly the following:

- ▶ The identification of the different drivers of transport demand, such as companies, visitor attractions and sporting organisations,<sup>e</sup> and the key role each can play in mitigating transport

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**d** Based on the Travel Behaviour Study carried out by the CSO in 2021, 24% of all journeys take place between 4 p.m. and 7 p.m., while a further 21% arise between 7 a.m. and 10 a.m., with both periods contributing significantly to traffic congestion and its associated externalities in terms of both time lost and environmental damage.

**e** The draft Moving Together Strategy notes that nearly half of adults in Ireland regularly participate in a sport and that over half of the population is regularly involved socially in sport through volunteering, club membership and/or attendance.



demand through different measures.<sup>f</sup> For sport organisations, this could include providing shuttle services and promoting greater carpooling, while businesses could play a significant role in incentivising reductions in private car travel.

- ▶ Better incentives for car sharing and carpooling through changes in car insurance and insurance practices that incentivise unnecessary car ownership (e.g. by allowing drivers to retain their no claims discount without continuous car ownership). Carpooling could reduce both kilometres travelled and emissions by about 10% as a result of fewer empty passenger seats.<sup>[31]</sup> The average car occupancy rate in the EU is approximately 1.6 persons per car, so measures to increase this have significant potential to reduce transport demand.<sup>[27]</sup>
- ▶ The development of legislation to support the introduction of congestion charging, urban road user charging and/or low-emission zones. Similar policy measures in the EU have been the most effective measures in reducing private car use and emissions, while Ireland lags behind the EU in developing and implementing Demand-oriented Transport policies.<sup>[31]</sup>
- ▶ The focus on building the evidence base to inform policy choices and pilot demand management measures. The Council welcomes the 2023 report on the National Development Plan by the Economic and Social Research Institute (ESRI),<sup>[39]</sup> which notes the transformational change that will be necessary to achieve emissions targets in the Transport sector. It recommends the development of a national research programme focused on transport to ensure that transformational and sustainable approaches are adopted and that the behavioural interventions required to deliver reforms are designed.

The Council urges the Government's finalisation and early implementation of these critical actions in its draft Moving Together Strategy, particularly the development of guidance for local authorities and the preparation of tailored local area demand management schemes, which should be priority actions of the strategy given the vital role local authorities play in transport decarbonisation. Timely delivery of actions across all aspects of the strategy will need to be supported by well-resourced departments and agencies and a well-resourced, system-wide implementation mechanism. This will require a whole-of-Government approach, including local government, and enterprise and community/citizen buy-in to ensure delivery. The Government should ensure that the necessary review of existing legislation to support demand management measures and to ensure that authorities have sufficient implementing powers is completed.

The public sector should lead by example and support wider public acceptance and behavioural change. The Council calls for the immediate adoption and realisation of the proposed Smarter Travel Plans and Smarter Travel Mark by public sector bodies. The Council also welcomes measures under the Public Sector Climate Action Strategy<sup>[40]</sup> and Public Sector Mandate for 2024<sup>[41]</sup> to create more sustainable travel policies. The Council recommends that the Department of Public Expenditure, NDP Delivery and Reform should now carry out a review of the emissions associated with travel for public sector organisations with a view to updating the guidance on corporate travel and subsistence policies and developing a methodology for calculating travel carbon budgets to be applied to corporate travel by organisations from 2026.

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**f** For example, over 375,000 people are employed in the public sector, or nearly 14% of the labour force in Ireland, with a further 60,000 employed in semi-state companies. Work is the main reason for travel nationally, and the public sector could take a leadership role in promoting sustainable transport.



## 5.3 Shift

The key elements considered here are the delivery of sustainable travel alternatives and behavioural change. Sustainable travel alternatives include active travel (e.g. walking, cycling), shared mobility and the public transport infrastructure, and they provide important co-benefits for health, cleaner air and noise reduction. The National Sustainable Mobility Policy acts as the key policy framework and action plan for the delivery of these alternative modes.

### 5.3.1 Active travel

Shorter car journeys have the most potential for replacement by active travel, particularly in urban areas.<sup>[42,43]</sup> About 20% of respondents to a recent SEAI survey reported taking a short journey by car in any given day even when public transport was available – an average of 15% of respondents for a journey under 2 km and 10% for a journey under 5 km.<sup>[43]</sup> Many of these short journeys involved travel to school and for shopping and errands. As well as infrastructural barriers to changing behaviour, in many cases there was limited awareness of how travel behaviour translates into emissions and how to save energy and reduce costs.

The National Household Travel Survey 2022<sup>[32]</sup> found that 68% of all trips by car were less than 10 km, with respondents using cars for over 70% of journeys. ESRI identified the availability and reliability of public transport as the most common factor impeding a change in travel behaviour, finding that one in four members of the public have the potential to shift to public transport if it became more widely available.<sup>[44]</sup> Research commissioned by the DoT found that almost 9 in 10 private car drivers are willing to leave their car at home in favour of walking, cycling or taking public transport for short journeys of less than 2 km.<sup>[45]</sup> There is significant scope for avoiding short car journeys, particularly where other sustainable modes are available and viable.<sup>[14,46]</sup> Significant investment in active travel infrastructure continued in 2024, with €290 million in funding allocated to local authorities in both 2023 and 2024.<sup>[47]</sup> Evidence demonstrates that improvements in infrastructure can support active travel,<sup>[48]</sup> particularly where the infrastructure is well connected, safe and located close to homes.

The Travel Behaviour Trends study<sup>[49]</sup> carried out by the CSO demonstrated that the primary purpose of journeys is to go shopping (24.7%), followed by going to work (23.8%) and companion/escort journeys (20.7%) (where an adult takes somebody to a destination such as school or college). In terms of how people are making journeys, private cars accounted for the vast majority (71%) of all journey types, 19% of journeys were made by active travel modes (walking or cycling) and 6% were made on public transport (bus, train or taxi). Car use varies significantly by the location of the respondent's home, with a higher proportion of journeys in sparsely populated areas being car dependent (80%) than those in densely populated areas (62%). The NTA's Regional Modelling System suggests that making the switch from cars to more sustainable modes of transport requires greater awareness of the relative costs and benefits of private cars compared with other transport modes.<sup>[14]</sup> Research carried out by the DoT found that driving is the default option for most people in Ireland because of convenience, comfort and time management. Individuals also feel that the impact of changing their behaviour on emissions is much less than what could be achieved by industry and Government.<sup>[14]</sup> Price changes driven by consistent policies rather than market fluctuations in fuel prices are more likely to trigger behavioural change,<sup>[28]</sup> indicating an important role for taxation policy in this area. The carbon tax, which the Council strongly supports, is an example of a consistent policy with a clear trajectory that also raises important revenues to support climate action.

The NTA published an updated Cycle Design Manual in 2023<sup>[50]</sup> based on best practice and delivery of infrastructure, with a focus on segregating cyclists from traffic. Segregating cycle lanes from



traffic is beneficial for both real and perceived safety.<sup>g[48]</sup> End-of-journey facilities and connection with other transport modes such as rail by increasing bicycle capacity on trains and providing secure bike parking near public transport and facilities at workplaces have also been demonstrated as important for uptake.<sup>[48]</sup> Implementing the recommendations of the National Cycle Network Plan, published in 2023,<sup>[51]</sup> will have a critical role in improving the provision of a safe and attractive cycle infrastructure.

Public support and engagement is critical for the implementation of transport infrastructure.<sup>[48]</sup> The Council welcomes the publication of the DoT's Public Engagement Strategy and supports initiatives to enhance public participation and further engagement to improve understanding of the barriers to modal shifts at local and national levels. A recent study by ESRI found that the public can overestimate the negative effects of infrastructure change while underestimating the scale of the environmental and health benefits of active travel schemes.<sup>[52]</sup> Accurate messaging can help local residents to make up their minds about the benefits and disadvantages of change based on accurate perceptions and expectations. There is a role for behavioural science research to improve understanding of the factors influencing people's choices and perceptions of policy; research shows that the public acceptability of transport policies is much higher after implementation.<sup>[53,54]</sup>

### 5.3.2 Public transport

To support a shift to greater use of public transport, services need to be reliable, accessible and frequent for all users. Positive developments in 2023 include a continued 20% average fare reduction on Public Service Obligation (PSO) services and an increase in public transport use of 24% compared with 2022.<sup>[14]</sup> Evidence indicates that lower fares have encouraged people to use public transport and notes the need to consider sustainable long-term PSO funding allocations once enhanced public transport networks are in place.<sup>h[55]</sup> A significant number of new rural bus services provided by Connecting Ireland and Local Link were also delivered in 2023. A progress report on the first year of implementation of the National Sustainable Mobility Policy indicates that the delivery of charging infrastructure and new zero-emission PSO bus services is on schedule.<sup>i</sup> As of 2023, there were 61 operational fully electric buses.<sup>[6]</sup> There has also been progress on a range of critical public and active transport infrastructure projects, including BusConnects, DART+ and MetroLink, and provision of funding for up to 1200 active travel projects.<sup>[12]</sup>

In Ireland, public support for improvements in infrastructure is evident in the recently published results of the Climate Change in the Irish Mind study, which suggests that almost 95% of the Irish population would support increased Government investment in transport infrastructure such as rail, bus corridors and cycling and walking paths.<sup>[56]</sup> The ESRI has noted that, under the NDP, €35 billion is allocated to the transport sector, including road network upgrades and large public transport initiatives such as MetroLink, BusConnects and Connecting Ireland.<sup>[42]</sup> Continued fiscal support will

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**g** A tracker has been developed by the European Cycling Federation to compare the lengths of different types of cycling infrastructure with the lengths of relevant public road network across the EU, and comparisons are available for Ireland: <https://ecf.com/ecf-cycling-infrastructure-tracker>

**h** This study also noted that there has been a declining use of products such as TaxSaver tickets in recent years due to the reduction in office attendance (because of the increase in hybrid working) and lower Leap card fares making TaxSaver tickets less attractive.

**i** The first of 120 double-decker battery electric buses were due to enter passenger service in the Dublin area by early 2024. All 120 buses should be operational by Q4 2024 (Climate Action Plan 2024). These 120 buses are the first stage in the procurement of up to 800 fully electric buses over a period of 5 years.



be required to achieve ambitions for the delivery of major public transport and active travel projects aligned with the National Investment Framework for Transport in Ireland within this decade and beyond 2030.<sup>[57]</sup> Planning delays and judicial reviews add to the costs associated with BusConnects and other major public transport projects, as well as adding to delays in their delivery and associated reductions in emissions.

The Climate Action Plan 2024 has highlighted the impact of the overall planning system on the timely delivery of sustainable transport infrastructure. There are significant lead-in times associated with the delivery of major public transport infrastructure in Ireland. These include the required project appraisal process,<sup>j</sup> Public Spending Code requirements, design, statutory processes and implementation timelines.

The All-Island Strategic Rail Review was published at the end of July 2023 for consultation, with an implementation plan to support proposed recommendations due in Q2 2024. This will inform investment in both passenger and freight rail. It highlights several challenges associated with passenger rail in Ireland, including low service frequencies and speeds, insufficient station access, and low levels of electrification and integration with other modes, along with the low share of passengers using the rail network in Ireland.<sup>[58]</sup> In the context of significant lead-in times for major infrastructure, the Council recommends that delivery of the Strategic Rail Review Implementation Plan is prioritised by the DoT, building on the recommendations of the review. Significant budgetary support and long-term investment will be required by Government in this area, given the critical role that enhanced rail services could play in decarbonisation.

Timely enactment and implementation of the revised Planning and Development Bill by the Government, including statutory timelines for making planning decisions, will be critical to minimise delays in the delivery of major public transport and active travel infrastructure projects. The timelines for the delivery of major public transport infrastructure projects, including BusConnects, Luas expansion and upgrades to the rail network across the country, remain a significant challenge, and increased ambition for capital investment in public transport should be supported through the next update to the National Development Plan and ongoing fiscal support. The Government needs to disincentivise the use of private cars and ICE vehicles in particular and support and enable the reallocation of road space at both local and national levels to support more sustainable modes of transport and reduce congestion.<sup>[42]</sup> Major projects such as BusConnects need to continue to address service speed, frequency and accessibility.

Recent surveys<sup>[32]</sup> demonstrate that a significant proportion of the population does not have access to public transport, indicating the importance of services such as TFI Local Link, provided by Transport for Ireland (TFI), which can be diverted for pick-ups and drop-offs. Access to public transport also plays a critical role in eliminating social exclusion of vulnerable groups. The Just Transition Commission in Scotland recommends that the needs of vulnerable groups are made central to decision-making through proper consultation and engagement to ensure that the transport system meets their needs.<sup>[59]</sup> Continued expansion of this service will need to focus on real-time passenger information and communication of service availability along with supporting infrastructure such as bus shelters.<sup>[60]</sup> The Community Cars scheme coordinated by TFI plays an important role in providing volunteer-led free travel in areas that are not served by public transport.<sup>[61]</sup> Initiatives like this can interact with the development of shared mobility solutions using EVs, as demonstrated by a pilot scheme on shared mobility and electrification run by ESB Networks in Leitrim.<sup>[62]</sup>

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**j** The Transport Appraisal Framework was updated in 2023 to enhance the consideration of climate change in the appraisal process for capital investments in the transport network.



Car journeys to and from schools are a significant driver of transport demand in Ireland. Data from the 2022 Census indicate an overall increase in transport demand and that over 50% of students travel to places of education by car.<sup>[63]</sup> One of the key targets in the Climate Action Plan 2024 is to shift 30% of all escort to education car journeys to more sustainable modes given that these journeys account for almost 20% of daily trips.<sup>[32]</sup> The 2022 Census did show promising signs of a reversing trend in the proportion of children and young people being driven to school.<sup>[63]</sup> In 2023, a review of the School Transport Scheme, currently used by approximately 161,000 children, was published.<sup>[64]</sup> The review proposes expanding access to the scheme to accommodate an additional 100,000 pupils through expanded eligibility criteria and reduced costs. The Council supports significant expansion of the School Transport Scheme by the Department of Education and further progress on the Safe Routes to School Programme by the NTA in 2024 and 2025.

### 5.4 Improve

The main elements considered here include the transition to EVs and the blending of biofuels with petrol and diesel to reduce emissions from ICE vehicles. These are being delivered through the work of Zero Emission Vehicles Ireland (ZEV) and the Renewable Transport Fuel Policy.

#### 5.4.1 Electric vehicle uptake

Electrification of the vehicle fleet offers an opportunity to reduce emissions in the Transport sector, particularly where avoid and shift measures are challenging to implement and there are important co-benefits in terms of improved air quality and reduced noise pollution.<sup>[65]</sup> While acknowledging the need to reduce car dependency, a transition to a fully electric fleet is a key measure for reducing transport emissions, especially from longer journeys. It will be particularly important in areas with high levels of car dependency, such as rural Ireland,<sup>[66]</sup> in addition to local, community-based transport schemes such as Local Link.

It is important to distinguish between plug in-hybrid electric vehicles (PHEVs) and BEVs. The benefit of PHEVs for reducing emissions and air pollution is dependent on their usage and charging behaviour; emissions are lower if they are driven mainly on electricity.<sup>[67]</sup> Energy systems modelling has demonstrated the importance of BEVs in the future energy system.<sup>[23]</sup>

Further measures will be required to accelerate the phase-out of older ICE vehicles, discourage the purchase of new and pre-owned ICE vehicles and address barriers to EV adoption. Volume 2 of Ireland's Climate Change Assessment<sup>[23]</sup> notes several factors that influence EV uptake, including subsidies, regulatory measures, charging infrastructure and awareness. In terms of subsidies, a purchase grant of up to €3500 for eligible new passenger BEVs is available through SEAI,<sup>[68]</sup> along with other support mechanisms.<sup>[69]</sup>

To ensure an equitable electrification of the fleet all households need access to the EV market. To do this means tackling affordability as a barrier to access. A recent study employed EV household charger data to examine the equity impacts of Government subsidies for EVs. The results indicate that (1) urban areas are more likely to see higher concentrations of EV ownership, and (2) an income and equity gap exists between those who have adopted electric mobility and those who have not.<sup>[69]</sup>

Subsidies for private and commercial cars have been shown to have a significant positive effect on EV adoption rates, as commercial fleets can act as a conduit for used EVs into the second-hand



private car market.<sup>k[27,70,71]</sup> However, sales of company EVs in Ireland were much lower than private sales of EVs at 13% in 2023. Data from SEAI indicate that 10,170 commercial grants for EVs had been issued as at May 2024.<sup>l[72]</sup> The roll-out of EVs in Belgium has increased from just over 10% of new registrations in 2022 to just under 20% in 2023, following the introduction of the phasing out of depreciation allowances on ICE and hybrid company cars between 2024 and 2026.<sup>l</sup> The Government should review depreciation rates,<sup>m</sup> as well as benefit in kind<sup>n</sup> for commercial fleets in Ireland to further incentivise the purchase of EVs over ICE vehicles.

In many cases, the total cost of ownership (TCO) of an EV can be lower than that of an ICE vehicle, taking account of the lifetime running costs of a vehicle. Recent research by ESRI found that one of the most commonly perceived difficulties in switching to an EV is cost.<sup>l[44]</sup> Improved awareness and communication of the lifetime costs of EVs (using tools such as SEAI’s Journey Cost Calculator) would help support greater adoption, as many customers consider only upfront costs when making purchasing decisions. This is demonstrated by the 10-year TCO for an ICE vehicle of €58,195 compared with €39,799–46,410 for a range of BEVs.<sup>l[73]</sup> An example of annual fuel price comparisons is shown in Table 3.

**Table 3: Fuel price comparison for C-segment vehicles (medium-sized cars) based on data for Q1 2024.**

(Sources: Fuel prices comparison data<sup>l[74]</sup> and Table THA18.<sup>l[75]</sup>) \*Blended rate of charging: 90% at home (night rate) and 10% public charging (fast and high-powered charge rate.)

\*\*Based on the average distance travelled by private cars in Ireland in 2022

	Estimated price (€/100 km)	Annual cost (€)**
Petrol	10.04	1548.47
Diesel	8.95	1380.36
Electric*	3.18	490.45

**k** The European Commission is currently developing an initiative aimed at greening corporate fleets: [https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/14111-Greening-corporate-fleets\\_en](https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/14111-Greening-corporate-fleets_en)

**l** The depreciation of new corporate cars in Belgium is calculated based on fuel type and CO<sub>2</sub> emission intensity from a maximum of 100% (BEV) to a minimum of 50% (for high-emission diesel). From 2026, newly registered cars can benefit from depreciation write-offs only if they have zero emissions. This policy will be phased in for ICE vehicles registered between 1 July 2023 and 31 December 2025.

**m** Corporate cars can be partially depreciated over an 8-year period depending on CO<sub>2</sub> emission intensity, with an accelerated depreciation for BEVs in 1 year. If the car emits less than 140 g CO<sub>2</sub>/km, €24,000 can be depreciated; if it emits between 140 and 155 g CO<sub>2</sub>/km, €12,000 can be depreciated; and if it emits more than 155 g CO<sub>2</sub>/km, depreciation is zero. For more details, see <https://goodtaxguide.org/>

**n** The benefit-in-kind rate is levied as a percentage of car value plus acquisition tax (VRT) and decreases with the distance driven. BEVs benefit from a €35,000 reduction in the tax base. See <https://goodtaxguide.org/>

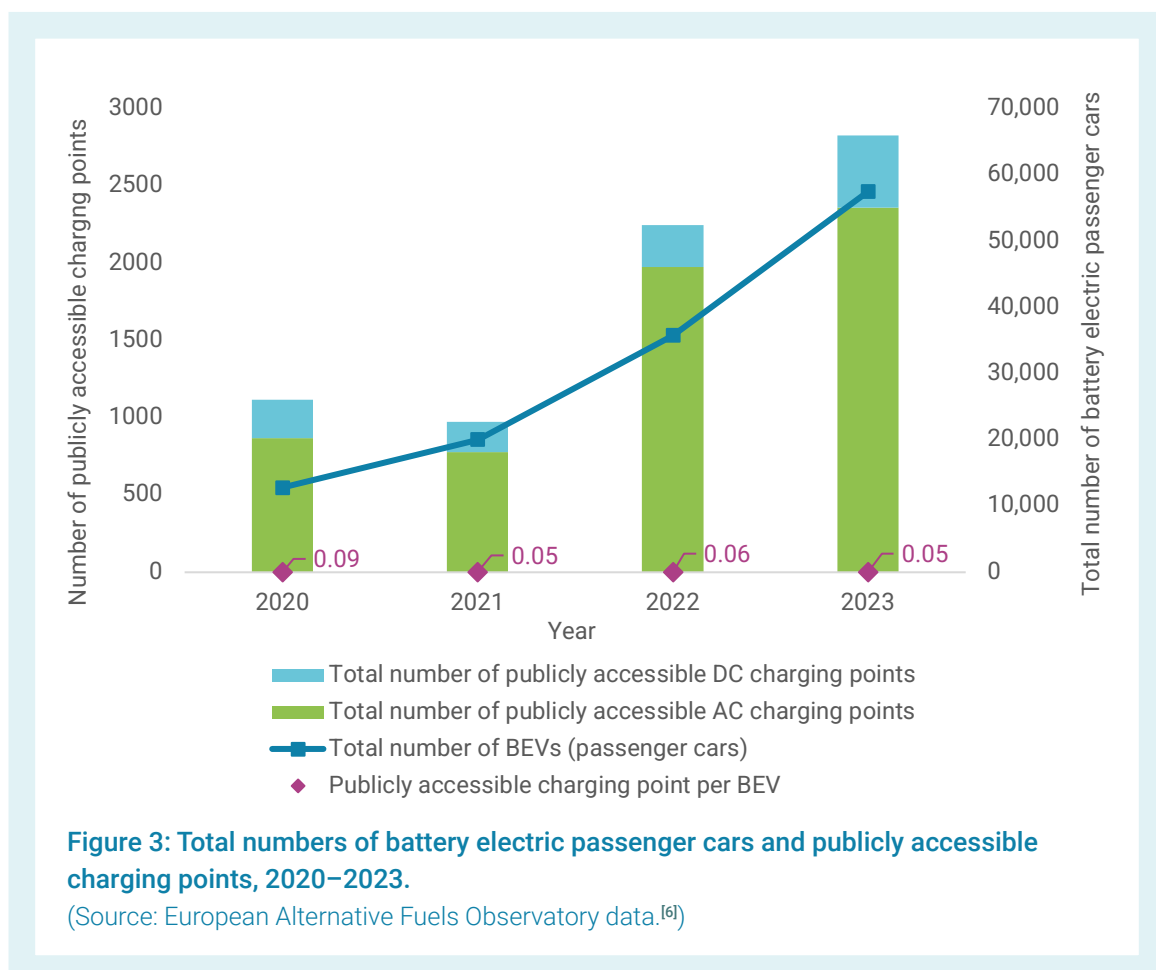


Researchers at Trinity College Dublin recently launched an app that tracks users' driving distances and calculates the potential cost savings and emission reductions they could achieve by adopting EVs.<sup>[76]</sup> Research carried out by SEAI shows that awareness of charging times, the available charging infrastructure, battery ranges and the environmental impact of EVs compared with ICE vehicles is also limited.<sup>[70]</sup> Under the Fuel Price Comparison Regulations<sup>[77]</sup> operators of fuel stations with three or more fuel pumps must now ensure that a number of filling stations display a fuel price comparison (€/100 km) for petrol, diesel, electricity, hydrogen and natural gas, which may improve awareness of the TCO.<sup>[74]</sup>

There is a need to plan now for vehicle end-of-life processing and battery processing in Ireland. The development of recycling streams to recover approximately 90% of critical battery materials could also significantly reduce the need for raw material mining from 2040.<sup>[78]</sup> In addition, there is a need to align the modelling and scenario development of electricity demand and network capacity requirements with EV deployment targets. The non-exhaust emissions of particles (brake, tyre and road wear) will also need to be considered and regulated in ongoing EV development.<sup>[79]</sup>

### 5.4.2 Charging infrastructure

Research has shown that the expansion of the charging network and availability of fast chargers is a critical driver of increased EV uptake.<sup>[23,28]</sup> Figure 3 shows the increase in the number of publicly accessible charging points in Ireland in recent years. The Council supports the increased levels of coverage of charging infrastructure on the entire road network in Ireland by 2025 proposed by ZEV1 over the minimum level mandated under the Alternative Fuels Infrastructure Regulations.<sup>[80,81]</sup>







Home charging currently accounts for approximately 80% of charging; however, there are barriers to on-street residential or multi-dwelling shared parking that need to be addressed to improve equitable access to EVs.<sup>[82]</sup> An expansion of the public charging network would also have co-benefits for the sale of smaller, more affordable and more efficient batteries if more frequent, reliable charging was available. Different electricity tariff structures for EV charging will also need to be considered where access to home charging is not available and taking account of utilisation rates.<sup>[73]</sup>

The development and implementation of the Regional and Local EV Charging Network Plan with regional and local authorities will be critical in this area,<sup>[81]</sup> and the Council welcomes the recent publication of a public consultation as part of the National EV Network Charging Plan.<sup>[84]</sup> Continued support by ZEVl for local authorities as they develop charging network strategies and implementation plans throughout 2024 will be critical along with the progression of these strategies.

Article 20 of the Alternative Fuels Infrastructure Regulation obliges operators of recharging and refuelling points to provide relevant data on availability and pricing to National Access Points by 31 December 2024 and further dynamic data from 2025.<sup>[85]</sup> The Council urges ZEVl to develop a strategy to support improved information provision to users. This should include the development of an interactive portal allowing users to map the location, current availability (including maintenance status), pricing and characteristics of all EV charging infrastructure in Ireland. Improving the quality of data available for charging infrastructure could also inform grid capacity requirements and provide insights on infrastructure use.<sup>[81]</sup> With multiple Charge Point Operators, it is also essential to ensure that charging stations are maintained and kept in proper working condition.<sup>[86]</sup>

The Government needs to prepare now for vehicle-to-grid charging technologies, as all new public charging points will be required to be enabled for smart charging, which will enable future vehicle-to-grid operations.<sup>[87]</sup> New residential and non-residential buildings must be capable of bidirectional charging where appropriate.<sup>[88]</sup> This strategy should include the development of new electricity pricing plans that remunerate consumers for electricity supplied from their vehicle.

### 5.4.3 Biofuels

The Renewable Transport Fuel Policy 2023–2025 sets out a pathway to incentivise the supply of renewable transport fuel through annual increases in the statutory renewable transport fuel obligation on fuel suppliers.<sup>[89]</sup>

The Council has previously highlighted challenges for biofuel blending in the Transport sector, including limited global supplies of biofuels and concerns over sustainability and biodiversity, and it continues to monitor developments in this area. A recent publication by the European Court of Auditors<sup>[90]</sup> and a number of investigations by the European Commission have also been launched to investigate used cooking oil imports and their compliance with sustainability criteria.<sup>[91]</sup> Waste-based products such as used cooking oil and animal fats accounted for approximately one-third of EU consumption and 62% of all biofuel placed on the market in Ireland 2022.<sup>[92]</sup> France, Germany and the Netherlands have recently called on the European Commission to strengthen the verification process for the production of biofuels in non-EU countries.

REDIII and the ReFuel EU Aviation and FuelEU Maritime initiatives all set specific targets for the uptake of low-carbon fuels for transport and set limits on the contribution from potentially unsustainable

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- The policy includes actions for working groups to be set up in 2023 ‘to progress a voluntary vulnerability assessment of the current and projected future biofuels supply into Ireland, with a view to identifying scope for risk of biofuel fraud (leading to high [indirect land use change]-risk) and other indirect impacts and making recommendations concerning improvements’.



sources of biofuels. ESAB has identified a potential role for sustainable biofuels in hard-to-decarbonise aspects of the transport system<sup>[17]</sup> but cautioned that policies should promote only the use of biofuels made from sustainable feedstocks and reflect their limited availability. Given these issues, the Council recommends that the DoT should consider the appropriate mechanism for prioritising scarce supplies of biofuels for use by large HGVs as an interim measure before full decarbonisation and develop a roadmap for deploying biofuels in the aviation and maritime sectors.

## 5.5 Freight decarbonisation

Ireland's Road Haulage Strategy 2022–2031<sup>[93]</sup> highlights that greenhouse gas emissions from HGVs account for 20% of the Transport sector's emissions in Ireland. A study commissioned by the Council to consider abatement measures in this sector under the ASI framework<sup>[94]</sup> found that Ireland's road system is well suited to current battery electric HGV ranges.<sup>p[95]</sup>

The Organisation for Economic Co-operation and Development<sup>[96]</sup> has recommended speeding up the transition to zero-emission HGVs by focusing on a single technology for which the essential infrastructure (the electricity supply network) already exists and for which battery ranges are already viable for light goods vehicles and smaller HGVs without significant changes to operations.

At a national level there needs to be a strong focus on enabling conditions for the transition to zero-emission HGVs, and measures should take account of the competitive nature of the road haulage industry and seek to reduce the uncertainty and risk of introducing zero-emission HGVs. The existing zero-emission purchase grant scheme<sup>[97]</sup> should be continually monitored<sup>[98]</sup> to balance the difference in cost between a zero-emission and a diesel HGV.

As well as public en route recharging/refuelling points for longer distance journeys, there will also be a need for private depot-based and destination recharging/refuelling infrastructure. Grants should be made available to road hauliers and other commercial operators, such as warehouses, ports and large-scale manufacturers, to reduce the cost of developing depot-based and destination recharging/refuelling infrastructure for zero-emission HGVs. This measure would reduce the risk for hauliers of rapidly adopting zero-emission HGVs by reducing the upfront cost of the required infrastructure. The large-scale deployment of zero-emission HGVs will require specialist skills for recharging/refuelling infrastructure and for vehicle management and maintenance. The Government should carry out an immediate assessment of the skills required and the gaps to be filled.

## 5.6 Aviation emissions

In 2023, Ireland used 1.36 billion litres of jet kerosene, the highest recorded annual energy demand for air travel to date.<sup>[8]</sup>

In 2022, international aviation contributed 3.05 Mt CO<sub>2</sub> eq of greenhouse gas emissions from over 126,500 return flights from Irish airports.<sup>q[1]</sup> While emissions from international aviation are not

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**p** A study was also recently published by the DoT to establish current data availability and quality in the road freight sector and explore current data gaps; <https://www.gov.ie/en/publication/a3a09-report-on-current-data-availability-and-quality-in-respect-of-road-freight/>

**q** On average Irish residents travel abroad four times a year, split into about two trips to continental Europe, 1.4 trips per person to Great Britain, 0.4 trips per person to the USA/Canada and 0.15 trips per person to other destinations. Irish residents take a journey by sea about 0.2 times a year on average. The main reasons for overseas travel reported in a 2019 CSO survey are for recreation, followed by visits to friends and family and business.



currently counted within Ireland’s national emissions reporting,<sup>r</sup> they are included in the required reduction in final energy use in 2030 required by the Energy Efficiency Directive.<sup>[12]</sup>

A substantial proportion of Ireland’s international aviation emissions is included in the EU Emissions Trading System, including intra-EU flights and flights within the European Economic Area. <sup>[1]</sup> The revised EU Emissions Trading System will phase out free allocations for aviation, apart from the use of sustainable aviation fuels.

Growth in the demand for aviation has outstripped energy efficiency improvements. Synthetic jet fuels are beginning to emerge as viable options, with some pilot projects in operation; however, overall, sustainable aviation fuels are expensive and their supply is limited.<sup>[28,99]</sup> A small quantity of bio-jet kerosene (aviation biofuel) was used in Ireland for the first time in 2022.<sup>[100]</sup> A clear strategy and vision for the development and deployment of sustainable aviation fuels and revolutionary aircraft technologies, supported by regulation and financing mechanisms to incentivise technology development at the necessary speed and scale, will be critical. The development of a Sustainable Aviation Fuel Policy Roadmap<sup>[101]</sup> to decarbonise aviation in line with the Climate Action Plan 2024 will be critical.

## 5.7 Climate resilience and biodiversity

The transport infrastructure network is listed as critical infrastructure in the National Adaptation Framework of 2018. Ensuring that critical transport infrastructure is fit for purpose and resilient to future projected climate changes, including changes in the frequency and intensity of extreme precipitation and other severe weather events, as well as sea level rise, is a key challenge. Previous assessments have highlighted uneven progress in and adaptive capacity for achieving climate resilience in the roads, rail, maritime and aviation subsectors.

In terms of maritime transport, Ireland’s ports are vulnerable to a range of climate threats, including sea level rise and more frequent and severe weather events. This vulnerability has the potential to result in cascading socioeconomic impacts, as approximately 90% of all goods traded in Ireland pass through its commercial port network.<sup>[102]</sup> To date, there has been limited consideration of climate change adaptation in the development and management of ports in Ireland, and the National Ports Policy of 2013 does not make any reference to the need for ports to adapt to or mitigate climate change. With €340 million of investment in port infrastructure planned under the National Development Plan and a multi-port approach planned to facilitate the deployment of offshore renewable energy, there is an urgent need for ports to strengthen resilience and adapt to the impacts of climate change.

Measures to strengthen the climate resilience of Irish ports should be prioritised by the DoT in the revised National Ports Policy, and it should ensure that all ports take a harmonised approach to the integration of climate risks in their operations, planning, infrastructure investments and decision-making.

A 2024 ESRI report<sup>[42]</sup> found that actions taken by the DoT to improve knowledge and enable adaptation measures would be likely to enhance the climate resilience of new transport network investments but that additional emphasis may be needed to ensure the resilience of the existing network. Examples of recent policies and plans that have integrated climate adaptation include the updated Transport Appraisal Framework (2023),<sup>[103]</sup> Transport Infrastructure Ireland’s Climate Adaptation Strategy (2022),<sup>[104]</sup> the Climate Adaptation Strategy for Regional and Local Roads (2023)<sup>[105]</sup> and the Climate

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<sup>r</sup> Emissions from the international aviation and maritime sectors are not accounted for in national emissions reporting. The United Nations bodies responsible for the aviation and maritime sectors are the International Civil Aviation Organization and the International Maritime Organization.



Guidance for National Roads, Light Rail and Rural Cycleways (2022).<sup>[106]</sup> Nature-based solutions are also being increasingly integrated into the design of transport networks. The Design Manual for Urban Roads and Streets using Nature-based Solutions,<sup>[107]</sup> published in 2023, provides guidance for designers on how to incorporate nature-based solutions into road and street drainage design and introduces a system of compliance certification, audits and exceptions. An advice note was also issued on greening and nature-based sustainable urban drainage solutions for active travel schemes in September 2023.<sup>[108]</sup>

Critical roads and railways that are vulnerable to flooding should be identified and prioritised for climate proofing, with sufficient funding made available, including through dedicated investment programmes from the DoT and Iarnród Éireann. A €626 million investment programme for regional and local roads was launched in 2023, including a climate change adaptation and resilience works grant to local authorities of €16 million for 329 adaptation projects<sup>[109]</sup> such as building protection walls and embankments, raising roads, strengthening and renovating bridges and road drainage improvements. Critical vulnerable regional and local routes<sup>s</sup> should be identified and prioritised for funding under this investment programme. Iarnród Éireann should also prioritise flood and erosion prevention works that need to be urgently undertaken at vulnerable parts of the network to minimise disruption and ensure improved service levels.

Improvement of road drainage systems is a key adaptation measure needed to manage increases in the frequency and intensity of extreme precipitation and the risk from pluvial flooding. An assessment of the capacity of current drainage design standards for national, regional and local roads to cope with future rainfall volumes and intensities is needed. Fit-for-purpose drainage systems should integrate the use of proven nature-based solutions to contain rainwater at source and to provide other benefits for biodiversity and mitigate pollution from run-off. The use and implementation of nature-based solutions in drainage and transport projects should be monitored and tracked through a database and the use of a range of indicators.

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**s** These are defined in Technical Annex 1 of the Climate Adaptation Strategy for Regional and Local Roads as the parts of the regional and local road network that are of greatest importance from a social, economic or emergency response perspective.



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