An Roinn Iompair
Department of Transport

zevi Zero Emission Vehicles Ireland

National EV Charging Infrastructure Strategy 2026–2028



Designed by: Wonder Works

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Acronyms and Definitions

Acronym	Definition
AC	Alternating Current
AFIR	Alternative Fuels Infrastructure Regulation
BESS	Battery Energy Storage System
BEV	Battery Electric Vehicle
CAF	Climate Action Fund
CAP	Climate Action Plan
CCS	Combined Charging System
CPO	Charge Point Operator
CRU	Commission for the Regulation of Utilities
DC	Direct Current
DoT	Department of Transport
DXP	Data Exchange Platform
ESBN	Electricity Supply Board Networks
eSPSV	Electric Small Public Service Vehicle
EU	European Union
EV	Electric Vehicle
HGV/HDV	Heavy Goods Vehicle/Heavy duty vehicle
ICE	Internal Combustion Engine
LDV	Light Duty Vehicle
NEDS	National Energy Demand Strategy
NTA	National Transport Authority
PHEV	Plug-in Hybrid Electric Vehicle
SEAI	Sustainable Energy Authority of Ireland
SECs	Sectoral Emissions Ceilings
TEN-T	Trans-European Transport Network
TII	Transport Infrastructure Ireland
UDGs	Universal Design Guidelines
V2G	Vehicle-to-Grid
V2H	Vehicle-to-House
ZEVI	Zero Emission Vehicles Ireland
ZEHDV	Zero Emission Heavy Duty Vehicle Scheme

'Avoid, Shift, Improve' Approach

The 'Avoid, Shift, Improve' approach presents a framework for structuring policy measures. Inspired by the principles of sustainability, the approach seeks to achieve significant carbon emission reductions, reduced energy consumption and less congestion, with the final objective of creating more liveable communities. The approach entails three pillars:

- **Avoid:**
  This refers to the need to improve the efficiency of the transport system. Through integrated land use planning and transport demand management, the trip length (and even the need to travel at all) may be reduced.
- **Shift:**
  The 'shift' seeks to improve trip efficiency. A shift from the most energy-consuming urban transport mode (i.e. cars) towards more environmentally friendly modes (such as active travel or public transport) is highly desirable.
- **Improve:**
  The 'improve' component focuses on vehicle and fuel efficiency as well as on the optimisation and innovation of transport infrastructure. It aims to improve the energy efficiency of transport modes and related vehicle technology. Furthermore, it acknowledges the potential of alternative energy use.

Charge Point

A charge point is a fixed or mobile interface that allows for the transfer of electricity to an electric vehicle. It is only capable of charging one EV (electric vehicle) at a time, although it may have multiple outlets to accommodate different connector types.

Category	Sub-Category	Maximum Power Output
AC	Slow AC charging point, single-phase	P < 7.4kW
	Medium-speed AC charging point, three-phase	7.4kW ≤ P ≤ 22kW
	Fast AC charging point, three-phase	P > 22kW
DC	Slow DC charging point	P < 50kW
	Fast DC charging point	50kW ≤ P < 150kW
	High-Powered (HPC) DC charging point	P > 150kW

Charging Pool (or charging hub)

A charging pool consists of one or more charging stations at a specific location, including (in some instances) the dedicated parking spaces adjacent to them. Multiple CPOs can be present at a charging pool.

Charging Station

A charging station is the physical installation for the charging of EVs. Every station has a theoretical maximum power output, expressed in kW. Every station has at least one charging point that can serve only one vehicle at a time. The number of charging points at a charging station determine the number of vehicles that can be recharged at that station at any given time. Where more than one vehicle recharges at that charging station at a given time, the maximum power output is distributed to the different charging points, such that the power provided at each individual charging point is lower than the power output of that station.

Connector

An EV Connector refers to the physical interface between the recharging or refuelling point and the vehicle through which the fuel or electric energy is exchanged.

Cross-Pavement Charging

Cross-pavement charging consists of proprietary systems designed to temporarily house charging cables in a pavement whilst a vehicle is being charged. This means that individuals who do not have off-street parking may charge their EVs on the street, without trailing charging cables across the footpath. The cable is removed once charging is complete.



Just Transition

The Just Transition is a concept aiming to shift from fossil fuels to sustainable energy without leaving behind vulnerable communities or workers. It ensures fairness, equity and inclusion by providing support and opportunities for impacted workers and communities, prioritising social dialogue and addressing climate change while considering social welfare. By combining environmental responsibility with social equity, a just transition approach seeks to create a sustainable future that benefits everyone, mitigates economic disruption and empowers those affected by the transformation towards a low-carbon economy.

Publicly Accessible Charging Station

'Publicly accessible alternative fuels infrastructure' is available to all EV drivers. According to the Alternative Fuels Infrastructure Regulation published in 2023, publicly accessible charging infrastructure is that which 'is located at a site or premises that are open to the general public, irrespective of whether the alternative fuels infrastructure is located on public or private property, whether limitations or conditions apply in terms of access to the site or premise and irrespective of the applicable use conditions of the alternative fuels infrastructure.'

This includes, for example, privately owned charging points accessible to the public that are located on public or private properties, such as public carparks or supermarket carparks. Charging points for car-sharing schemes should only be considered accessible to the public if they explicitly allow access for third party users. Charge points located on private properties, access to which is restricted to a limited, determinate circle of persons, such as parking lots in office buildings to which only employees or authorised persons have access, are not considered as publicly accessible.

Universal Design

Universal Design is the process of designing and composing an environment so that it can be accessed, understood, and used to the greatest extent possible by all people, regardless of their age, size, ability or disability. This includes public places in the built environment such as buildings, streets or spaces that the public have access to; products and services provided in those places; and systems that are available including information and communications technology.

A universally designed charging station is one that has been designed to ensure it can be used easily, safely and comfortably, without any physical, cognitive or technological barriers by everyone.

Interoperability

Interoperability, in its widest sense, is the ability of computer systems or software to exchange and make use of information. In the case of EV charging infrastructure, achieving an interoperable ecosystem means that the available information and payment options allow any user to easily charge any model of EV at any charging station.

On/Off-Street Charging

On-street charging refers to EV charging infrastructure that is installed on public roads or streets, usually in the form of a roadside charging station. Off-street charging, on the other hand, refers to charging infrastructure that is located in areas such as car parks or garages.

TEN-T Network

The trans-European transport network (TEN-T) is a Europe-wide network of roads, rail lines, ports and airports. Transport infrastructure on the Core TEN-T network is required to be completed to the standard set out in the Regulation by 2030. The Comprehensive network is a wider network which is required to be completed by 2050.

The regulation also sets out high-priority 'European Transport Corridors' – which link passenger and freight transport networks across Europe. Ireland is included on two of these –the Atlantic Corridor and the North Sea-Rhine-Mediterranean Corridor.

Heavy Duty Vehicles (HDVs)

Heavy Duty Vehicles (HDVs) is a broad category encompassing any vehicles with a gross vehicle weight of more than 3.5 tonnes. Examples include freight trucks or passenger transport vehicles of more than 8 seats (buses and coaches).

Heavy Goods Vehicles (HGVs)

Heavy Goods Vehicles (HGVs) are a sub-category of HDVs, referring specifically to commercial freight vehicles with a gross vehicle weight of above 3.5 metric tonnes. HGV categorisation does not include passenger transport vehicles such as buses and coaches.

Minister's Foreword

Electric Vehicle Charging Infrastructure Strategy 2026–2028

I am pleased to introduce the Electric Vehicle Charging Infrastructure Strategy 2026–2028, which reaffirms the Department of Transport's commitment to expanding and modernising Ireland's EV charging network. This strategy is a key enabler of our transition to zero-emission transport and supports our national target of having 30% of the private car fleet switched to electric vehicles by 2030.

Fleet electrification is one of the most impactful mitigation actions identified in the Climate Action Plan and it will deliver the largest share of transport emissions reductions by 2030. As Ireland continues to decarbonise its transport sector, demand for EVs is growing steadily. It is therefore essential that our charging infrastructure keeps pace with this growth, ensuring it is accessible, reliable and future-proofed for all users.

This strategy builds on the successful foundations laid by the Department's 2022–2025 Strategy and reflects the Government's continued ambition to stay ahead of demand, meet the requirements of the Alternative Fuels Infrastructure Regulation (AFIR) and deliver infrastructure that meets the evolving needs of EV users.

Following the publication of the 2022–2025 Strategy, the Universal Design Guidelines were developed and published in May 2024. These guidelines provide a clear framework for the nationwide rollout of accessible and efficient EV charging infrastructure. Developed in collaboration with industry experts, government colleagues, disability organisations and user groups, the guidelines ensure that charging infrastructure is inclusive for all and informed by international best practice.

The National Road EV Charging Network Plan, also published in 2024, outlines the requirements for publicly accessible charging infrastructure. It aims to deliver high-powered, fast and convenient charging infrastructure across the country. We are already seeing increased charging capacity on our national roads, providing reassurance to EV drivers that they can charge where and when they need to.

The ZEVI EV Recharging Infrastructure LDV National Road Grant Schemes were launched in October 2024, targeting over 3,000km of national roads. The LDV1 (Motorways), LDV2 (National Primary Roads) and LDV3 (National Secondary Roads) schemes are all designed to meet and exceed national AFIR power requirements. Collectively these schemes aim to add an additional 162 charging hubs (or pools) and 516 high-powered and fast charge points to the national charging network. To date, €11 million has been committed for LDV1 and LDV2 in 2026, with a further €8.8 million expected for LDV3. Dedicated recharging stations for Heavy Duty Vehicles (HDVs) are also mandated under AFIR, with €0.5 million allocated for 2026 and €2 million for 2027.

Destination schemes are also underway in Limerick and Dublin, with 30 chargers being installed at 15 neighbourhood and destination locations in Limerick and 200 charge points at 50 locations across the four Dublin local authorities. These projects are currently in the detailed design or construction phases, with ongoing engagement with ESBN. All other Local authorities are finalising regional EV Infrastructure Strategies, with pilots currently being delivered in 15 and implementation of the full strategies expected to begin later in 2027.

While over 80% of EV charging is expected to occur at home, a robust and seamless public charging network is essential, particularly for those without access to home charging. Private sector investment has played a key role in this space, with the number of publicly available charge points increasing from 1,700 in September 2022 to 3,237 at the end of 2025.

In addition to this progress since 2022, we will see significant delivery from Government funded infrastructure in 2026:

- Construction has begun on delivering 162 new EV en-route charging hubs and 516 high-powered recharging points across Ireland
- Shared Island Sport Club Scheme delivering fast charging at Sports Clubs across the island

Further, in September 2026, my Department convened a national focus group to examine the available solutions and enabling processes to enable EV drivers without access to home charging to charge at on-street locations with their own charging cable. When complete, ZEVI will bring forward an incentivised funding scheme for cross-pavement charging solutions to support this initiative.

I am proud to announce that Ireland has reached a major milestone in the transition to electric transport with almost 272,971 EVs now registered on Irish roads. This reflects an increase of over 76,000 EV registrations since September 2025. As this momentum continues, it is vital that our national charging infrastructure and grid capacity grow in tandem to support this transition and provide confidence to current and prospective EV drivers.

Together, these actions and investments form a comprehensive and forward-looking strategy that will support Ireland's transition to a cleaner, more sustainable transport system that works for everyone. We remain committed to adapting our approach in response to emerging technologies, battery innovations and evolving user needs. Innovation and collaboration are central to our strategy, driving progress and ensuring a fair and inclusive transition to electrified transport is achieved.



Darragh O'Brien
Minister for Transport

Executive Summary

Ireland remains fully committed to meeting its climate goals and decarbonising transport through a large-scale transition to zero-emission vehicles. By September 2026, over 270,000 EVs were registered on Irish roads.

Delivering sufficient EV charging infrastructure is essential to maintaining confidence among current and prospective EV users and to staying ahead of demand. The Electric Vehicle Charging Infrastructure Strategy 2026-2028 sets out the national pathway for the continued delivery of a reliable, accessible and futureproofed charging network. The Strategy builds on progress since the 2022-2025 Strategy and aims to align with the EU Alternative Fuels Infrastructure Regulation (AFIR) and Ireland's Climate Action Plan target of 30% of the private car fleet being electric by 2030.

This Strategy takes a planned and phased approach to delivery through 2026–2028. While home charging will remain the primary solution for most users, the Strategy prioritises a robust public charging network – neighbourhood, destination and enroute - to ensure that all user needs are catered for and people without access to home charging are not disadvantaged.

Progress Since the 2022–2025 Strategy

Since the publication of the 2022–2025 Strategy, notable progress has been made in the following areas:

- **Funding for the expansion of high-powered public charging infrastructure along Ireland's national road network**
  ZEVI/TII LDV National Road Grant Schemes (LDV1, LDV2 and LDV3) were first launched in October 2024 and continue to be delivered targeting over 3,000 km of national roads and designed to meet and exceed AFIR requirements. Construction has begun on delivering 162 new EV en-route charging hubs and 516 high-powered recharging points across Ireland.
- **Supporting accessible charging infrastructure for all users**
  Universal Design Guidelines for EV Charging Infrastructure were developed and published in May 2024 and updated in 2026 to support an inclusive, user-friendly rollout.
- **Publication of the National EV Charging Network Plans to coordinate the rollout of charging infrastructure across the country**
  This national plan was made up of two parts, the first of which, the National Road Network EV Charging Plan, was published in 2023, setting out requirements for publicly accessible charging on national roads. This was followed by the Regional and Local EV Charging Network Plan which was published in 2024 and provides a pathway for the accelerated delivery of regional and local EV charging infrastructure in destination and neighbourhood areas.

- **Shared Island Sports Club Scheme**
  Delivering fast (50&100kW) charging at Sports clubs across the island of Ireland.
- **ZEHDV Scheme**
  Provides grants to reduce the cost gap between zero-emission heavy-duty vehicles and diesel alternatives. Funded by the Department of Transport and administered by TII, it supports the decarbonisation of Ireland's transport sector and funds battery-electric, hydrogen fuel-cell and eligible plug-in hybrid heavy-duty vehicles, as well as associated depot-charging infrastructure.

Serving EV Users: Personas and User Journeys

All EV charging infrastructure ultimately exists to serve EV users. The Strategy refreshes the original seven personas from the 2022-2025 Strategy and adds two additional personas to reflect emerging needs and vehicle types. These personas inform infrastructure planning by highlighting when, where and how different users need to charge.

Personas in the 2026-2028 Strategy include:

- Anna, the Apartment Renter
- Caroline, the Car Sharer
- Rachel, the Retired Urban Dweller
- Ruairí, the Rural Commuter
- Mike, the HDV Driver (updated from the HGV persona)
- Tara, the Taxi Driver
- The Jacksons, the Tourist Family
- Ronan, the Commercial Van Driver (new)
- Johanna, the Midi-bus Fleet Manager (new)

Policy Context

Since the publication of the 2022–2025 Strategy, the policy environment for EV charging infrastructure has evolved significantly at both European and national level. These developments strengthen regulatory certainty, introduce binding obligations on Member States and place greater emphasis on accessibility, interoperability and system integration.

At EU level, the introduction of the Alternative Fuels Infrastructure Regulation (AFIR) in 2023 represents a step change in the policy framework for EV charging. AFIR replaces earlier non-binding targets with mandated requirements on the scale, geographic distribution and technical performance of publicly accessible charging infrastructure. It introduces distance-based and fleet-based charging power requirements, mandates transparent pricing and ad hoc payment options, and sets common technical standards to improve interoperability and the user experience across Member States.

Other new legislation informing the development of Ireland's EV charging infrastructure includes the EU Energy Efficiency Directive, the Renewable Energy Directive and the CO_2 Emissions Performance Standards Regulation.

At a national level, the National Energy Demand Strategy, published in 2024, places demand side flexibility at the centre of Ireland's transition to a low carbon energy system and recognises EVs as a key source of future flexibility through smart charging and vehicle to grid technologies.

In parallel, the Energy Performance of Buildings Directive (2024) introduces strengthened requirements for EV charging readiness in new and existing buildings, supporting the long-term expansion of both private and workplace charging. Demand side flexibility is at the centre of Ireland's transition to a low carbon energy system and recognises EVs as a key source of future flexibility through smart and bidirectional charging and vehicle to grid technologies.

Ireland's Road Haulage Strategy 2022–2031, which sets out a 10-year framework to modernise and decarbonise the industry, identifies electrification as a preferred technology for decarbonising the HDV fleet.

Fundamental Principles

The Strategy is underpinned by five guiding principles that remain consistent with the previous Strategy and are supported with refreshed insights reflecting the evolving EV landscape.



Strategic Ambition

The ambition of this Strategy is to continue delivering an EV charging network that meets and stays ahead of EV users' needs, supports the 2030 electrification targets and complies with AFIR requirements for coverage, power and user experience.

By 2030, the aim is to deliver 712GW of publicly accessible LDV charging capacity nationally.

Light Duty Vehicles (LDVs): Delivering a National, User focused charging Network

Light-duty vehicles comprising passenger cars and light commercial vans – will continue to account for the majority of EVs on Irish roads during the period of this Strategy and will drive the largest share of demand for public charging infrastructure. While home charging will remain the main solution for the majority of EV drivers, supporting the accelerated electrification of this segment through a reliable, well distributed public charging network remains central to achieving Ireland's transport emissions reduction targets and maintaining confidence among current and prospective EV users.

Recent developments, including Government action to enable cross pavement charging, are intended to support new home-adjacent charging solutions for many additional households without access to off-street parking, helping to improve convenience and reduce reliance on higher cost public charging for more LDV users.

The Strategy sets out a planned and coordinated approach to LDV charging infrastructure delivery, moving from an early market led model to a more structured, demand led rollout.

Heavy-Duty Vehicles (HDVs): Building the Foundations

Decarbonising heavy-duty transport is more complex but worthwhile due to the sector's emissions contribution. The Strategy supports the initial stages of HDV electrification through a coordinated national approach to planning Ireland's HDV recharging infrastructure requirements, aligned with AFIR distance-based requirements on the TEN-T network and urban nodes.

Ireland currently lacks any dedicated publicly accessible dedicated enroute HDV charging hubs. HDVs require dedicated infrastructure in terms of layout, power capacity, access and amenity often at logistics hubs or along freight corridors. Depot charging is expected to be the cornerstone of early electrification, supported by ZEHDV infrastructure grant schemes. A targeted pathway for public HDV charging will be developed to work towards AFIR obligations and enable broader uptake, supported by the HDV Electrification Pathway Working Group which was established by ZEVI in 2025.

Managing Electricity Network Demand

As transport electrification increases, EV charging will place additional pressure on the electricity grid. Managing this additional demand in a smart and coordinated way is therefore essential to ensuring that charging infrastructure can continue to expand and scale without compromising system reliability or affordability.

Smart charging, time of use pricing and common technical standards such as ISO 15118 will be central to managing EV charging demand. Battery energy storage systems also offer significant potential to help mitigate grid constraints at high-powered charging hubs by smoothing peak demand and reducing connection requirements. Delivery of this approach will depend on close coordination across the transport and energy sectors.

Looking Ahead

The period from 2026 to 2028 represents a critical phase for the delivery of Ireland's EV charging infrastructure, as Government supported investment scales up to stay ahead of demand and to support continued growth in EV uptake. To support the deployment of infrastructure schemes announced in 2025, an increase in funding of 20% has been allocated in 2026, with a further increase of 16% into 2027, under the Road Networks & Road Safety portions of the Transport Sectoral Investment Plan (November 2025). Further significant yearly increases over the next five years will facilitate increased investment requirements. This funding will be used to finance supports which will target and address identified gaps in the EV infrastructure market.

Delivery will focus on a balanced mix of home, neighbourhood, destination and enroute charging, recognising that different users require different solutions and that Government intervention remains necessary where the private market alone cannot deliver infrastructure at the required scale, pace or geographic spread.

The areas of primary focus for infrastructure delivery over the 2026–2028 period are:

- **Home and Cross-Pavement charging**
  Home charging will continue to be the primary method of charging for most EV users in Ireland. ZEVI will prioritise the implementation of cross-pavement charging where appropriate for those without dedicated off-street parking, the continued installation of smart home chargers – complaint with ISO-15118 and the deployment of V2G technologies where feasible.
- **Neighbourhood charging**
  Neighbourhood charging is required by those without dedicated access to off-street parking. ZEVI is working with all local authorities in Ireland to develop regional based strategies and run pilots with the ultimate aim of providing local and neighbourhood-based charging solutions for EV owners without access to off-street parking.
- **En-route charging**
  En-route charging will be delivered along the National Road Network through a series of three LDV schemes already launched by ZEVI and TII. Taken together, the three phases of the LDV scheme form a coherent and complementary programme of delivery nationally.

- **Destination charging**
  Destination charging provision will focus on sites serving multiple user needs, locations of strategic regional importance and key tourism destinations. Total demand will be identified in the local authority strategies, with infrastructure delivery primarily led by local authorities on local authority sites, as well as publicly owned sites where agreed.
- **HDV charging**
  ZEVI will work closely with TII and industry stakeholders to implement early public HDV charging schemes to encourage wider HDV utilisation and inform future HDV charging infrastructure decisions.

Infrastructure rollout will be guided by a planned, user centred approach informed by Local Authority strategies, pilot projects and utilisation data, with a transition toward demand led delivery as the market matures. Strong regulatory frameworks, continued grid investment and adherence to accessibility, interoperability and transparency requirements will underpin delivery and will be reviewed in 2027. This will ensure that by the end of the Strategy period, Ireland will have a more extensive, resilient and equitable charging network to support continued expansion to 2030.



Introduction

This Strategy sets out the national pathway for the continued delivery of Ireland's electric vehicle charging infrastructure. It supports the Climate Action Plan target of 30% of the private car fleet being electric by 2030 and ensures that the provision of public charging infrastructure remains ahead of growing demand. As EV uptake accelerates, this Strategy outlines the measures required to expand charging availability, strengthen system readiness and provide confidence to all current and prospective EV users.

Ireland's transition to low-emission transport is taking place within the wider international response to climate change. Delivering a strategic and just transition requires charging solutions that meet the diverse needs of urban and rural communities. The Strategy recognises the increasing pressure that electrification places on electricity networks, the different charging requirements across vehicle types and the need for coordinated planning as more people shift towards electric mobility.

This Strategy outlines a planned and phased approach to delivering a comprehensive national charging network to 2030, with detailed actions focused on the period to 2028. It reflects the requirements of the Alternative Fuels Infrastructure Regulation, national climate legislation and the need for a balanced, equitable and user-centred rollout. The Strategy also supports the ongoing development of guidance, standards and enabling legislation. While home charging will remain the primary method of charging for most EV users of LDVs, the demand for a reliable and seamless public charging network will continue to grow. The Strategy therefore prioritises the delivery of public charging infrastructure, including neighbourhood, destination and en-route solutions, to ensure that drivers who cannot charge at home are not placed at a disadvantage.

The pace of innovation in EV technologies continues to accelerate. Improvements in battery performance, the emergence of new vehicle classes and advances in charging systems are reshaping the landscape for both light-duty and heavy-duty vehicles. This Strategy integrates existing and emerging technologies into its delivery framework, recognising that while the direction of travel is clear, the precise technical solutions available by the end of the decade will continue to evolve.

The delivery of this Strategy will be supported through sustained Government investment and strong collaboration with local authorities, Transport Infrastructure Ireland, ESB Networks and industry partners. Zero Emission Vehicles Ireland will continue to coordinate and oversee implementation. A mid-term review to be undertaken in 2027 will assess progress, identify gaps and refine actions based on technological developments, infrastructure performance and user needs.

What will be delivered builds on the progress already made. Ireland has expanded charging capacity across the national road network and advanced destination charging at key locations. This Strategy strengthens those foundations and sets out a clear plan to deliver a fair, accessible and future-proofed charging network that supports citizens, businesses and communities throughout the transition to electric mobility.

User Needs

Understanding the user experience has been of paramount importance in the development of this strategy and continues to be a key part of the implementation phase. To put users at the centre of EV infrastructure planning, we have refreshed the original seven personas developed for the original 2022-25 strategy and created two additional personas. These personas and their user journeys show how people may interact with the current EV public charging network. The profiles explore the users' specific requirements and how EV charging provision will need to evolve over the coming years to respond to context, scale, and opportunity. An in-depth exploration of each persona's key moments and user journey is included as an appendix. Here is a brief overview of each:

Anna, *the Apartment Renter*



When Anna wants to charge her car near her apartment block, she wants to have access to an available charger (or know when they will be readily available). She would prefer to have access to her own charger at her dedicated parking space in the building, or, if not, multiple chargers at spaces open to all residents that she could prebook if required.

Caroline, *the Car Sharer*



When Caroline rents an EV from a car-sharing app at weekends, she wants to make sure the car has enough charge when she picks it up and returns it, using fast-charging facilities along the way or at her destination.

Rachel, *the Retired Urban Dweller*



When Rachel is charging her car on the go, she wants to be able to check in advance that the charger will be accessible to her. Rachel has limited mobility, so she wants to know that her chosen charger will be suitable for her needs.

Ruairí, *the Rural Commuter*

When Ruairí commutes to work or runs errands with his daughter, he needs to have access to chargers enroute or at his destination. Without a suitable way to get home charging, he relies heavily on affordable alternatives.

Mike, *the HDV Driver*

When Mike is driving across the country in his HDV, he needs to be able to top up his HDV battery quickly while enroute. This needs to be in a safe location so that he can take his standard rest break while his HDV charges.

Tara, *the Taxi Driver*

When Tara is working as a taxi driver, she wants to be sure she has enough charge to complete her shift. She doesn't want to have to waste time finding an available fast charger.

The Jacksons, *the Tourist Family*

When the Jackson family travel in Ireland, they want to have a seamless EV experience. They want to be able to rent an EV and have charging facilities available at each of their destinations (including remote ones). They don't want to worry about being stranded on their holiday in Ireland.

Ronan, *the Commercial Van Driver*

When Ronan is driving his van to cater for events, he wants to know that he can find a charger fast enough with a space large enough to charge his van while on the go. He would prefer not to have to compete with passenger vehicles for a charging space.

Johanna, *the Bus Fleet Manager*

When Johanna is managing the tour company's fleet of buses, she needs to know there are alternatives to charge the vehicles along their routes. She is concerned that the limited depot charging infrastructure will impact how many vehicles she can charge overnight and use for tours the next day.

Chapter 1 /

National and International Policy Context



1. National and International Policy Context

The transition to EVs is a central pillar of Ireland's climate ambitions and transport transformation. As EV adoption accelerates, it is essential to consider the 'avoid, shift, improve' framework, which guides sustainable mobility strategies worldwide. This framework encourages the avoidance of unnecessary journeys, the shifting of travel to more sustainable modes such as walking, cycling, and public transport and the improvement of vehicle and fuel technologies, represented by the move to zero-emission EVs and lower emission and zero emission fuels.

In the Irish context, the expansion of EV charging infrastructure is not happening in isolation, but rather as part of a broader effort to decarbonise transport, reduce reliance on private cars where possible and ensure that necessary journeys are made in the cleanest way available.

1.1 Overview

The National Electric Vehicle Charging Infrastructure Strategy 2022–2025 was Ireland's first comprehensive plan to develop a nationwide EV charging network. It outlined a €100 million investment over three years to support the transition to EVs through the expansion of the public charging network, including a roadmap for delivery with focuses on user-centric design and the role of local authorities.

The Strategy supports several European and national policies, particularly the EU 'Fit for 55' legislation, the Programme for Government, and the National Climate Action Plan. This updated 2026–2028 Strategy looks to build on the existing 2022–2025 framework by addressing both emerging needs and accelerating progress towards Ireland's 2030 climate targets.

1.2 European Policy Context

EV infrastructure requirements are governed by the 'Fit for 55' legislative package, which is the EU's legislative framework to reduce net greenhouse gas emissions by at least 55% by 2030 (compared to 1990 levels). It is a central pillar of the European Green Deal and includes reforms across energy, transport, buildings and industry. The specific directives and regulations that relate to EV charging infrastructure targets and needs are detailed in Figure 1.

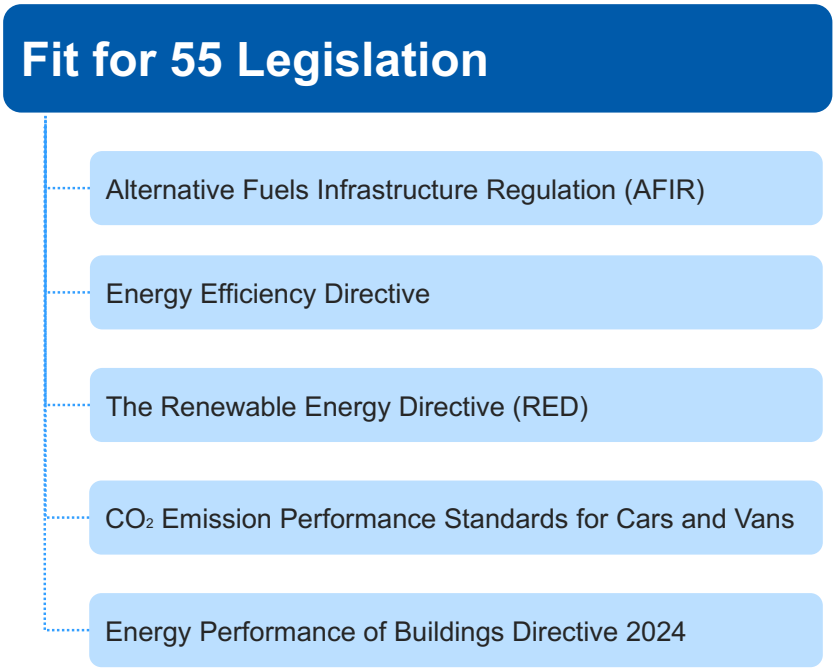


Figure 1. Legislation following from the Fit for 55 Legislation

1.2.1 Alternative Fuels Infrastructure Regulation (AFIR), (Regulation (EU) 2023/1804).

Forming part of the EU 'Fit for 55' package, AFIR aims to ensure the widespread availability, accessibility, and interoperability of infrastructure for alternative fuels across all modes of the EU transport sector.[1] It took effect in 2024 and is designed to support the shift to clean transport and achieve EU targets by delivering a consistent, accessible and user-friendly charging and refuelling network across Europe.

AFIR sets binding national targets for all Member States to ensure adequate deployment of alternative fuel infrastructure for the road, rail, maritime and aviation sectors. It also defines unified technical standards and requirements for user access, data sharing and payment systems to ensure consistency and interoperability across the EU. The requirements include minimum power output and the maximum distance allowable between recharging pools (one or more recharging stations in one specific location).

1 https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32023R1804

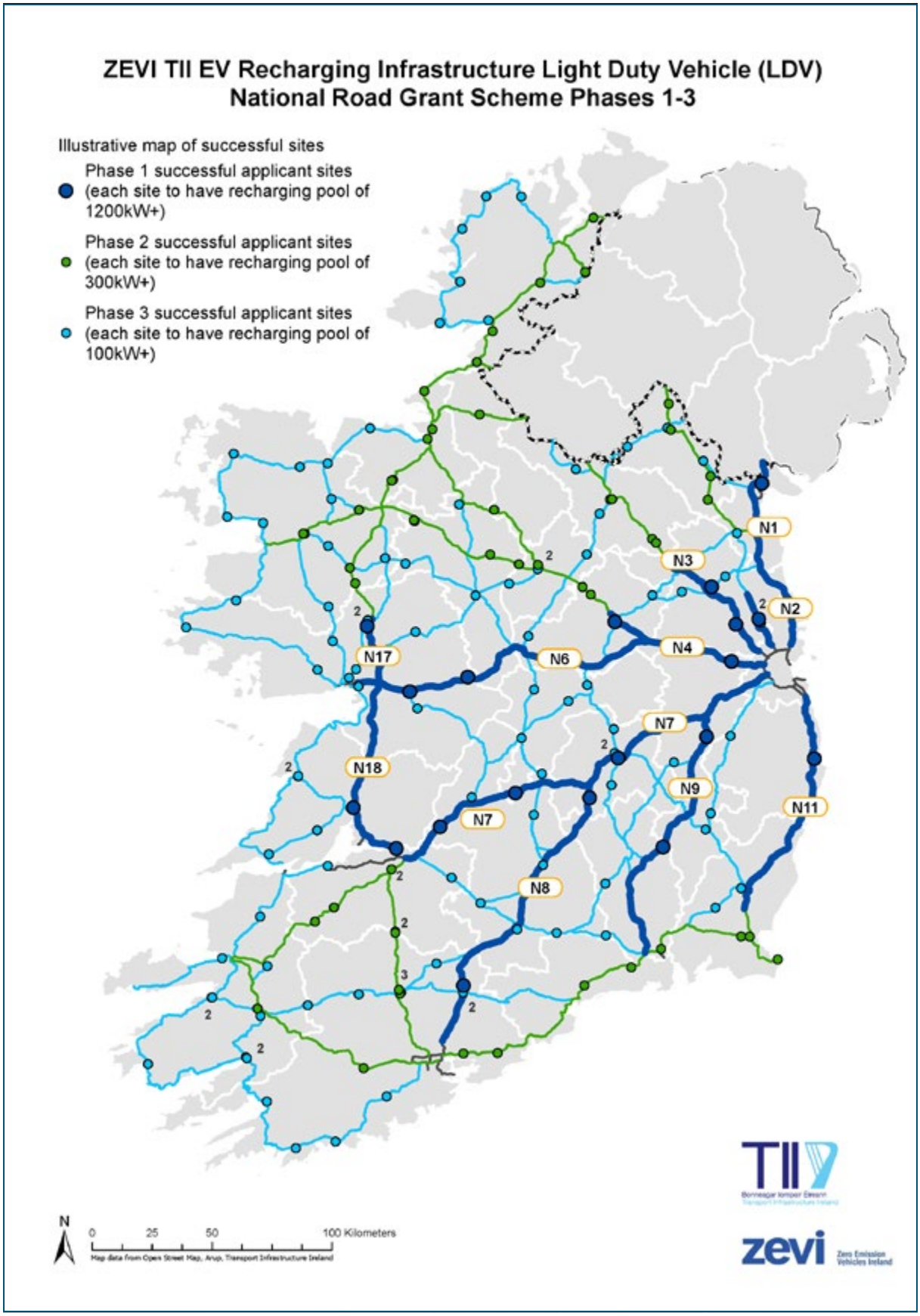


Figure 2. ZEVI TII Recharging Infrastructure Light Duty Vehicle (LDV) National Road Grant Scheme LDV 1–3

By 2027, publicly accessible EV charging pools for cars and vans must be installed at least every 60km along the core TEN-T network. Each site must provide a minimum total capacity of 600kW, including at least two charging points delivering 150kW each. By 2035, these requirements will also apply across the entire comprehensive TEN-T network.

For HDVs, charging points of 2800kW are required every 60km in each direction, which needs to include two stations with an output of 350kW. Hydrogen refuelling stations must be located in all urban nodes, and otherwise spaced every 200km. Urban nodes refer to designated key European metropolitan areas within the core TEN-T network which serve as critical multimodal hubs connecting local, regional and international transport for passengers and freight. The HDV elements of AFIR will be challenging to deliver within the required time periods, but a pathway is in development to deliver on HDV recharging and refuelling requirements.

Each Member State must ensure that its public EV charging infrastructure provides a minimum level of power output based on the number of registered electric vehicles in that country. For battery electric vehicles (BEVs), this means that there must be at least 1.3 kilowatts (kW) of public charging capacity available per vehicle. For plug-in hybrid EVs (PHEVs), the minimum is 0.8kW per vehicle.

Additionally, to improve the user experience, all chargers along the TEN-T network must accept ad-hoc card payments by 2027, meaning drivers do not require a specific app or subscription to pay. Furthermore, clear pricing must be displayed and Charge Point Operators (CPOs) must share dynamic data on charge station availability, connection type, speed and location. All charging infrastructure must support remote monitoring, load management and vehicle-to-grid (V2G) capabilities.

AFIR Derogation

AFIR provides for a limited derogation from the fleet-based public recharging power output requirements for light-duty electric vehicles in Member States with high levels of battery electric vehicle (BEV) uptake. Where BEVs account for at least 15% of the total light-duty vehicle fleet, a Member State may submit a reasoned request to the European Commission to apply lower total power output requirements, or to cease applying those requirements, where their continued application is no longer justified and is demonstrated to have adverse effects, such as the discouragement of private investment. Any such request is subject to assessment and approval by the European Commission on a case-by-case basis, with a decision to be adopted within six months. This derogation applies only to the fleet-based charging power requirements and does not affect distance-based infrastructure obligations or requirements for other vehicle categories.

Given that the market for alternative and zero emission fuels is still in the early stages of development, a review of AFIR is to take place by 31st December 2026, including an assessment of targets and derogations. Further reviews will take place every five years afterwards.

AFIR Pricing Transparency Summary

AFIR requires that, for public electric vehicle charging, all prices must be reasonable, transparent, non-discriminatory and clearly displayed. These requirements on ad-hoc payment, pricing transparency and interoperability are central to addressing user concerns regarding fragmented charging experiences across different operators. The Regulation mandates that users can access charging services without the need for multiple subscriptions or applications, and that pricing is clearly displayed and comparable across providers. These provisions are intended to ensure a consistent, user-friendly charging experience across the national and European charging network. AFIR requirements on ad-hoc payment, pricing transparency and interoperability include the following This includes the following points:

- **Clear Upfront Pricing:**
  CPOs must display all charging costs (per kWh, per minute, per session) before charging begins.
- **kWh-Based Pricing for Fast Chargers:**
  Stations with ≥50 kW must price charging based on electricity delivered (per kWh).
- **Occupancy Fees:**
  Fees are allowed to prevent overstaying but must be minute-based and shown to users in advance.
- **Fair, Transparent Pricing:**
  CPOs and Electric Mobility Service providers (eMSPs) must ensure reasonable, non-discriminatory prices; ad-hoc users cannot be charged excessively more than contract users.
- **On-Site Price Display:**
  For chargers ≥50 kW, pricing must be visible at the station (screen, QR code or terminal).
- **MSP Price Disclosure:**
  MSPs must inform users of all session-specific costs (including roaming), through digital tools before charging starts.
- **No Hidden Charges:**
  All fees, including roaming, must be clearly itemised and presented to the user.
- **Ad-Hoc Payments:**
  All publicly accessible EV charging stations must accept tad-hoc payments via debit or credit card

AFIR Data Requirements

AFIR also requires Charge Point Operators to share dynamic, near real-time data on charger availability, status, connector type and power output through open data channels. This obligation is central to addressing user concerns about reliability, as it enables drivers to see in advance whether a charger is operational and available, and supports the development of third-party tools and route-planning applications that improve confidence in the public charging network.

1.2.2 EU Energy Efficiency Directive (Directive (EU) 2023/1791 of the European Parliament and of the Council.

The revised EU Energy Efficiency Directive (EU/2023/1791) has been in force since October 2023 and required national transposition by 11 October 2025. [2] The Directive sets a binding target to cut the EU's final energy consumption by 11.7 per cent by 2030 and formally embeds the "energy efficiency first" principle in major policy and investment decisions. Annual energy-saving requirements will rise progressively, reaching 1.9% by 2028, while the public sector must meet a 3% yearly renovation rate for buildings over 250m. Also included are updated "gap-filling" mechanisms, which apply where Member States fall short of their indicative national contributions. Electric vehicles are a key element in making transport more efficient, as they are two to four times more efficient than current internal combustion engine vehicles.[3] Consumer focused provisions, including improved billing transparency and protections for vulnerable and energy poor households, also support affordability and stable electricity costs, which in turn facilitate accessible home charging for EV users.

The Directive forms a core pillar of the EU's 'Fit for 55' legislative package, supporting faster decarbonisation, reducing dependence on imported fossil fuels, improving public health outcomes and lowering energy costs across the economy.

1.2.3 The Renewable Energy Directive (RED) (Directive (EU) 2023/2413 of the European Parliament and of the Council)

The Renewable Energy Directive is the EU's primary legal framework for advancing renewable energy across all sectors.[4] It aims to accelerate the clean energy transition and help meet EU climate targets under the European Green Deal. The Directive is central to reducing EU dependence on fossil fuels, cutting emissions and boosting energy security and competitiveness. It contains a binding target whereby, by 2030, at least 42.5% of energy consumption in the EU must come from renewables, with an additional ambition to reach a 45% share within the same timeframe.

The Directive sets out a transport-specific target for a 14.5% reduction in GHG emissions and a renewable energy use of 29% in the transport energy sector. Key measures such as the simplification of approval processes, the creation of renewables acceleration areas and support for difficult-to-decarbonise sections are laid out as measures to support the achievement of these targets.

RED III allows for renewable electricity through public charge points to receive credit towards the target of 2030 renewable energy share in transport. National legislation with effect from 1 January 2026 enables the award of Renewable Transport Fuel Obligation certificates for verified renewable electricity consumption in road transport at public charge points, providing an incentive for the electrification of road transport by way of an additional revenue stream for CPOs for charge point deployment.

2 https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32023L1791

3 https://www.sciencedirect.com/science/article/pii/S2211467X19300082?via%3Dihub

4 https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32019R0631

1.2.4 CO_2 Emissions Performance Standards for new passenger cars and for new light commercial vehicles (Regulation (EU) 2019/631 and Regulations (EU) 2023/85)

Regulation (EU) 2019/631 establishes binding CO_2 emission limits for new passenger cars and vans sold in the EU.[5] It is a cornerstone of EU climate policy, aimed at reducing transport emissions and supporting the shift to zero-emission mobility. Regulation (EU) 2023/851 was introduced in 2023 to strengthen the original standards, tightening CO_2 emission standards specifically for the transport sector. The 2023 regulations set reduction targets of 55% for cars and 50% for vans by 2030, reaching 100% by 2035, thus effectively requiring all new vehicles to be zero-emission.

In April 2025, the European Commission proposed a targeted flexibility measure allowing car and van manufacturers to meet 2025–2027 CO_2 targets over a three-year average rather than annually. This amendment was adopted by the European Parliament and of the Council in June 2025 as Regulation (EU) 2025/1214. The European Commission's Automotive Package, published in December 2025, sets out a proposed policy framework intended to support the transition to clean mobility while maintaining industrial competitiveness within the European Union.

Central to the package is the proposed amendment to the CO_2 emissions standards for new passenger cars and vans. This proposal, which remains under negotiation at time of publication, would adjust the 2035 target from a full phaseout to a 90% fleetwide emissions reduction, with the remaining 10% permitted through capped credits for low carbon steel, renewable fuels and other compliant technologies.

The proposal also includes a revised 2030 target for vans, reducing the required CO_2 reduction from 50% to 40%. It introduces additional compliance flexibilities, including banking and borrowing of emission credits and super credits for small and affordable EVs produced in the EU. Finally, it proposes a targeted amendment to the CO_2 emission standards for heavy-duty vehicles with a flexibility easing the compliance with the 2030 targets.

	Current Regulation	Proposed Amendment
	CO_2 Emissions Reductions compared with 2021 Baseline	
2025–2029	15% reduction for cars and vans	No change to current regulation
2030–2034	55% reduction for cars 50% reduction for vans	No change to current regulation for cars 40% reduction for vans
From 2035	100% reduction for cars and vans (zero tailpipe emissions)	90% reduction for cars and vans, compensation mechanism for the remaining 10%

Table 1. CO_2 Emissions Reductions Cars and Vans – Current and Proposed Regulation

5 https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32019R0631

Alongside the review of the CO_2 emissions standards, the package includes measures to:

- Decarbonise corporate fleets by introducing mandatory national targets for the uptake of zero and low emission vehicles in large companies;
- Strengthen Europe's own battery industry through the €1.8 billion Battery Booster Strategy;
- Stimulate demand for small EVs made in the EU by introducing a new vehicle category for EVs up to 4.2 meters in length;
- Streamline regulation and cut industry costs via the Automotive Omnibus; and
- Update and harmonise car labelling rules.

Collectively, the measures outlined in the Automotive Package signal the Commission's intention to balance climate ambition with technological neutrality and industrial resilience, while indicating potential future adjustments to the regulatory environment that will influence the rate and trajectory of zero emission vehicle uptake across Member States.

1.2.5 Energy Performance of Buildings Directive 2024 (Directive (EU) 2024/1275)

Directive (EU) 2024/1275 replaces Directive 2010/31/EU, also known as the Energy Performance of Buildings Directive (EPBD), is an integral part of the EU 'Fit for 55' package.[6] It supports EV deployment indirectly by introducing new legislative proposals and targeted recommendations and references taxation measures to incentivise and support the transition to green energy and reducing fossil fuel consumption.

The directive outlines that "electric vehicles are expected to play a crucial role in the decarbonisation and efficiency of the electricity system, namely through the provision of flexibility, balancing and storage services, especially through aggregation." It states that the potential for electric vehicles to be integrated with the electricity system, contributing to system efficiency and renewable electricity absorption, "should be fully exploited."

Article 14, Infrastructure for Sustainable Mobility, is particularly relevant as it sets out instructions for Member States to adhere to through EV charging infrastructure and building requirements. Member States, including Ireland, must ensure that new and renovated buildings with adjacent or internal car parks meet minimum requirements for EV infrastructure including charging points, pre-cabling, ducting and bicycle parking, with stricter charge point ratios for office buildings. Existing non-residential buildings with more than 20 parking spaces must comply with specific requirements by 2027 and 2033 deadlines, while all buildings must streamline procedures for installing charging points.

1.2.6 Clean Vehicles Directive (CVD)

The Clean Vehicles Directive (Directive 2019/1161/EU), amending Directive (2009/33/EC) as transposed by S.I. No. 381/2021, promotes clean mobility solutions in public procurement tenders and complements the public sector mandate set out in the Climate Action Plan. This revised CVD aims to boost demand and further deployment of low and zero-emission vehicles.

6 https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=OJ:L_202401275

The Directive applies to cars, vans, trucks and buses (excluding coaches), when they are procured through purchase, lease, rent or hire-purchase contracts. It also applies to public service contracts for the provision of passenger road transport services and services contracts for public road transport services, special-purpose road passenger-transport services, non-scheduled passenger transport, refuse collection services, mail and parcel transport and delivery. The Directive defines clean vehicles and sets minimum targets for their public procurement.

1.3 National Policy Context

The national policy context draws on the targets and requirements set at the EU level. Key policies and legislation are detailed in the following subsections.

1.3.1 National Development Plan 2018–2027

The National Development Plan 2018–2027 committed to major investment in transport, prioritising sustainable public transport such as Metro Link, the DART Expansion and BusConnects in key cities, along with new walking and cycling routes to support lower carbon travel.[7] It also funded upgrades to national, regional and local roads to complete key links, ease congestion and improve safety.

The plan highlighted the need for a more resilient and modern electricity network, with commercial State bodies expected to invest significantly in reinforcing transmission and distribution systems, supporting smart metering, and improving the grid so it can carry more renewable energy and strengthening interconnection with other countries. Overall, the plan aimed to support cleaner, more efficient travel and a stronger energy network while improving access across the country.

1.3.2 National Development Plan Review

Building on these priorities, the subsequent National Development Plan (NDP) Review sets out an even more ambitious roadmap for strengthening Ireland's infrastructure.[8] Published in July 2025, the plan provides for the largest ever capital investment in Ireland's infrastructure and development. Up to €3.5 billion in new equity will be invested in electricity grid infrastructure in the PR6 period from 2026 to 2030, including €2 billion for EirGrid and €1.5 billion for ESB Networks to enable a major expansion of the transmission and distribution networks. Investment in the electricity grid is essential to reliably and sufficiently supply electricity in light of the expected growth in electricity demand, growth to which charging infrastructure will contribute.

7 https://assets.gov.ie/static/documents/national-development-plan-2018-2027-4648929a-319f-4297-83f6-4350b6f76913.pdf

8 https://assets.gov.ie/static/documents/NDP_Review_document_-_updated_in_use.pdf

1.3.3 Climate Action Plan

The Climate Action Plan (CAP) is Ireland's central policy instrument for delivering on national and EU climate targets. It sets out annual measures to reduce greenhouse gas emissions across all sectors and aligns with the legally binding commitments under the Climate Action and Low Carbon Development Act which commit to halve emissions by 2030 and reach net-zero by 2050. These plans outline specific actions for departments, agencies, and public bodies, with defined timelines for delivery.

The Climate Action Plan 2025 builds on previous versions, introducing sectoral emission ceilings and targeted measures across energy, buildings, transport, agriculture and land use.[9]

1.3.4 The National EV Charging Network Plan

The National EV Charging Network Plan is one of the key actions raised in the accompanying Implementation Plan to the 2022–2025 National EV Charging Infrastructure Strategy. The Plan is made up of two parts – one covering the national roads and the other covering regional and local roads and areas.

The National Road EV Charging Network Plan provides a roadmap for the deployment of charging on the motorway network and Primary and Secondary National road network, including TEN-T and motorways, DC fast/ high-power charging infrastructure, and light duty and heavy goods vehicles.[10] The National Road Charging Network Plan recognises that smart data alongside smart charging will enable the future proofing of infrastructure.

The Regional and Local EV Charging Network Plan is the second part of the Plan which sets out the pathway for the accelerated delivery of regional and local networks of public EV charging infrastructure in villages, towns and cities.[11]

The National EV Charging Network Plan and the first National EV Charging Infrastructure Strategy recognised the need for Government intervention to support the emerging EV infrastructure market to provide for user needs, creating certainty for those wishing to transition for EVs, and to meet EU targets. Data on the provision of EV charging infrastructure to 2022 demonstrated that the private market, without Government investment, would not deliver sufficient EV charging infrastructure at appropriate density and capacity across the country to deliver on national and European objectives.

9 https://assets.gov.ie/static/documents/c491032e/DECC_Climate_Action_Plan_2025_Main_Report_-_Final_Web.pdf

10 National Road EV Charging Network Plan

11 Regional and Local EV Charging Network Plan

1.3.5 The National Energy Demand Strategy (NEDS)

The first National Energy Demand Strategy was published by the Commission of the Regulation of Utilities (CRU) in July 2024.[12] The strategy aims to:

- Ensure electricity and gas demand aligns with Ireland's carbon budgets and sectoral emissions ceilings (SECs).
- Promote demand flexibility, focusing on non-fossil fuel solutions and demand response initiatives outlined in CAP23.
- Achieve CAP23 targets of 15-20% demand-side flexibility by 2025 and 20-30% by 2030.
- Support Ireland's transition to net zero emissions by 2050.

The Strategy focuses on progressing initiatives that can contribute to demand flexibility in the short term, as well as outlining the longer-term strategic direction. It identifies the potential flexibility which battery electric vehicles (BEVs) could offer the electricity grid, outlining that EVs alone could provide up to 4,420MWh of flexibility per day by 2030. According to NEDS, Ireland currently has limited demand flexibility at circa 5% of the daily demand. The Climate Action Plan 2023 (CAP23) sets out a 15–20% target for demand flexibility by 2025 and 20–30% by 2030.

1.3.6 Programme for Government

The Programme for Government was published in January 2025 and sets out an ambitious and credible programme to be delivered by the Government over the next five years.[13] The Government have made several commitments within this Programme to accelerate the transition to electric and sustainable transport. These include:

- Develop a new National EV Infrastructure Strategy which ensures EV charging is ahead of demand and in line with EU mandated obligations, including neighbourhood charging for those who do not have access to home charging and charging across the main transport arteries;
- Substantially increase the number of publicly available EV charging points, ensuring better coverage nationwide, and reduce the average distance between EV recharging points;
- Ensure local authorities allocate space for EV chargers in town plans and mandate new commercial carparks to provide EV chargers;
- Launch a national EV recharging infrastructure data strategy to enable real time data to be made available on mobile devices on the location and availability of all EV charger locations across our road network;
- Examine the current EV grant system and the introduction of additional incentives with a view to increasing take-up of EVs and replacing older, polluting vehicles.

The ICE2EV Scrappage Scheme 2026 was designed to address a persistent emissions challenge within the private car fleet being the continued use of older, high-emitting ICE vehicles, particularly among households facing financial barriers to transitioning to EVs.

12 National Energy Demand Strategy

13 https://assets.gov.ie/static/documents/programme-for-government-securing-irelands-future.pdf

Older ICE vehicles generate disproportionately high emissions and make a significant contribution to both greenhouse gas emissions and poor air quality than their EV counterparts. The scheme was designed to test the effectiveness of scrappage as a tool to stimulate EV uptake among those who may not otherwise transition in the near term, with the ultimate goal of delivering additional emissions reductions necessary to achieve Ireland's climate targets.

The scheme was announced as a capped pilot, administered on a first come first served basis with 65% of the funding allocated to rural and 35% to urban applicants. This approach was intended to prioritise support for households in areas with fewer public transport options and a greater reliance on private vehicles, while maintaining a simple and efficient scheme design.

The scheme, administered by the SEAI, was backed by a capped amount of €17 million in funding from the Climate Action Fund under the Department of Climate, Energy and the Environment. The Climate Action Fund was established in 2018 to provide assistance and financial support to projects which will help Ireland achieve its climate and energy targets and this scheme has been delivered within the limits of the funding available.

Under the scheme, eligible applicants received a €5,000 scrappage payment for the permanent disposal of an ICE vehicle more than 13 years old. This payment was in addition to the existing €3,500 EV purchase grant, providing support of up to €8,500 towards the purchase of a new or eligible BEV. The scheme opened on July 1st and was fully subscribed.

1.3.7 Cross Pavement Charging

In July 2025, the Irish Government published a Private Wires Policy Statement.[14] The new policy follows international examples and allows for the installation and operation of private onshore electricity wires in certain circumstances where it clearly benefits the public.

Accordingly, the Department of Climate, Energy and the Environment (DCEE) has brought primary legislation to the Oireachtas to amend the Electricity Regulation Acts. Additional information on this policy and associated legislation can be found in Chapter 7.

1.3.8 Ireland's Road Haulage Strategy 2022–2031

As per Ireland's Road Haulage Strategy 2022–2031, emissions from HGVs were responsible for 20% of total transport emissions, while light goods vehicles (LGVs) accounted for 18% of total emissions.[15] This is the first national strategy dedicated to the road freight and haulage sector, setting out a 10-year framework to modernise and decarbonise the industry while supporting its long-term viability. The strategy is structured around seven strategic themes, including sustainability, road safety, labour market development and integrated transport planning.

14 https://assets.gov.ie/static/documents/Private_Wires_Policy_Statement.pdf

15 Ireland's Road Haulage Strategy 2022–2031

1.3.9 The National Sustainable Mobility Policy

The National Sustainable Mobility Policy (NSMP) sets out Ireland's strategic framework for active travel and public transport to 2030, aiming to support a 51% reduction in carbon emissions from the transport sector by the end of the decade.[16]

Published by the Department of Transport in 2022, it replaces earlier policies such as Smarter Travel (2009) and aligns with the Climate Action Plan 2021, which also promotes the uptake of EVs and renewable fuels. The policy's primary focus is on encouraging a modal shift to walking, cycling and public transport, but recognises that private car journeys will remain the predominant mode of transport in certain areas. In these areas, it is recommended that private car journeys should transition to low and zero-emission vehicles. In the context of the NSMP, special consideration for charging infrastructure should be given to those areas where a modal shift to active and public transport is not considered feasible.

1.3.10 Moving Together: A Collaborative Approach to Systems Change in Transport

This Strategy, currently being finalised for Government approval, is a new national framework for reducing transport demand by working collaboratively across government, the economy, and communities to co-create the solutions needed for a more balanced and equitable transport system. The Strategy focuses on systemic change and exploring ways to improve the necessary conditions for that change through a diverse range of potential measures, all designed to make sustainable travel more attractive and accessible over the longer term. The objectives of the Strategy represent Government's multi-faceted approach to promoting behavioural change, with the aim of reducing vehicle kilometres, and supporting a safer and healthier environment for all. The Strategy includes over 30 recommendations and includes measures to review existing incentives to encourage uptake and transition to electric vehicles. It is expected that the strategy will be finalised and approved by Government in Q1 2026.

The Strategy aligns closely with the extensive range of Government investment and supports already in place or planned for public transport, walking, cycling, and electric vehicles. It focuses on gradual and meaningful shifts in travel behaviour and acknowledges the need to continue supporting electrification and improving the charging infrastructure for electric vehicles across Ireland. The Moving Together Strategy acknowledges that implementing demand management measures alone will not reach Ireland's legally-binding climate targets, including a 50% reduction in transport emissions by 2030. Therefore, the Strategy mutually reinforces the National EV Infrastructure Charging Strategy 2026–2028 and the National Sustainable Mobility Policy to support the overall ambition to decarbonise transport and support Ireland's climate commitments.

16 https://assets.gov.ie/static/documents/sustainable-mobility-policy.pdf

1.3.11 Policy on Hydrogen and other potential alternative fuel options

EV charging infrastructure is critical, but not the only route to zero-emission transport. While direct vehicle electrification is considered to be the most efficient and most mature route to decarbonising our vehicle fleets, Government also recognises the need to support a variety of options, particularly where direct electrification may not be feasible or viable for certain use cases. The availability and supply of alternative fuels infrastructure in transport is recognised as a key support and enabling mechanism to the wider decarbonisation of the sector. For that reason, work is well advanced on a National Policy Framework (NPF) for Alternative Fuels Infrastructure for Transport which will encompass various potential pathways including electrification. The NPF covers all transport modes.

In that context, AFIR recognises hydrogen as a key alternative fuel. As currently prescribed, AFIR sets highly ambitious targets for hydrogen refuelling infrastructure in EU member states. Hydrogen technologies offer a number of benefits to the transport sector, including in the maritime and aviation sectors and a complementary role for heavy duty transport for certain use cases. These include power density (hydrogen fuel cell technology has high-specific energy and power density), refuelling speed, competitive range, and air quality impacts. Hydrogen technology has the potential to complement electrification in the transport sector and ensures greater diversification and resilience in terms of energy sources into the future.

With this in mind, the Shared Island Initiative funded "Eastern Green Hydrogen Corridor | Demonstrator Project" is in development. This will help to assess and explore a range of procurement approaches to support the development of the market for alternative fuels (specifically green hydrogen), including the deployment of the necessary infrastructure. In line with AFIR requirements, the Department for Infrastructure in Northern Ireland and the Shared Island Unit in the Department of the Taoiseach established a joint cooperative approach, with the Department of Transport concluding a feasibility study exploring the potential for the deployment of a green hydrogen refuelling station on the Dublin-Belfast corridor. The feasibility study determined that hydrogen refuelling infrastructure technology has reached sufficient technical maturity to support a commercial pilot.

This project will also support the initial deployment of a network of publicly accessible hydrogen refuelling infrastructure on an all-island basis. The Department of Transport and partners in the Department for Infrastructure in Northern Ireland have moved to Phase III to develop a Preliminary Business Case and procurement strategy for two demonstrator HRS along the Dublin-Belfast corridor.

Green hydrogen is expected to play a key role as a zero-emission transport fuel for Ireland in the medium to long term.



Chapter 2 /

Fundamental Principles



2. Fundamental Principles

The previous strategy established fundamental principles that underpin the rollout of EV charging infrastructure over the coming decade. These principles remain firmly in place and are now updated with refreshed insights that reflect the evolving EV landscape and emerging opportunities which build on the progress to date.



Figure 3. The Five Guiding Principles

2.1 Principle 1: EV infrastructure will form part of a wider sustainable transport network

The projected increase in the number of EVs and associated infrastructure will not occur in isolation. It will happen as part of a wider transformation that will see more people walking and cycling to their destinations.

It will be important that both the planning of and investment in EV charging infrastructure is undertaken in a way that considers the wider sustainable transport system. Sustainable transport involves connecting people and places in manner that enables safe, accessible, comfortable, affordable and environmentally efficient journeys. This will be done by promoting cleaner transport options and encouraging a shift from private cars to active and public travel.[17]

2.2 Principle 2: EV charging infrastructure will work for everyone, regardless of age, health, income or other needs

A fair and equitable transition to large-scale EV use requires a charging network that works for everyone. To facilitate access for all citizens, ZEVI has developed the Universal Design Guidelines. Offering accessibility considerations across charging station design, site design & accessibility and information & communications, these guidelines are intended to support the implementation of universal access principles at all stages of EV infrastructure development – from planning and design to operation and use.

Compliance with the UDGs is a condition of public funding for EV charging infrastructure delivered under this strategy. ZEVI will engage directly with Disabled Persons Representative Organisations (DPROs) and disability advocacy groups to ensure that accessibility requirements reflect lived experience, evolve in line with user needs, and are embedded in both the design and operation of publicly funded infrastructure.

In addition to the use of the chargers themselves, the strategic siting of rural EV charge points will support the transition to EV use in areas of low population density, where travel alternatives to the car are lacking. Reliable EV infrastructure to support the wider tourism industry will also be given special consideration.

2.3 Principle 3: For the majority of EV users, home charging will remain the primary charging solution

Home charging is the most cost-effective and convenient way of charging EVs in Ireland. It is the most common form of charging and approximately 80% of Irish car owners have access to private off-street parking with the option of installing charge points that can be connected to domestic electricity supplies.[18] Home charging allows EVs to be parked, plugged in and left to charge overnight, offering maximum convenience and the possibility of benefitting from lower night and other smart tariffs.

17 https://assets.gov.ie/static/documents/sustainable-mobility-policy.pdf

18 https://assets.gov.ie/static/documents/draft-national-policy-framework-for-alternative-fuels-infrastructure.pdf

As EV uptake accelerates in Ireland, home charging will remain the most common and convenient form of charging for most LDV EV drivers. Special provisions will continue to be made for people who live in higher-density residential blocks (such as apartments) as well as people in residential developments with shared parking facilities. ZEVI is also working with the Department for Climate, Energy and the Environment to introduce legislation that will allow for a cross-pavement solution to be used to access a home charger.

Depot charging for electric vans and trucks acts as the commercial equivalent to home charging. In a similar manner to home charging for non-commercial EVs, private charging in depots will remain the most cost-effective and common form of charging.

2.4 Principle 4: Alternative charging options will be provided for those who cannot charge at home

For a sizeable minority of EV drivers, charging at home will not be an option. It is therefore vital that these drivers are provided with charging solutions that mirror the benefits of a home charging option. Residential charge points should, insofar as is possible, be able to replicate the home charging pattern of charging vehicles at night, during off-peak periods and at a lower cost.

Charging options for those without access to off-street (home) charging include:

- Local neighbourhood charging hubs will cater for those who do not have access to private off-street parking.
- Shared-charging solutions, whereby EV owners can rent out the use of their personal home charge point, can provide a low-cost, easy-to-deliver charging solution for EV owners without access to a driveway.
- Destination charge points will allow EV users to charge at public venues.
- En-route charge points enable fast top-ups along the National Roads Network, enabling long-distance travel across Ireland in an EV.
- Fast taxi charging hubs, enabling quick charging for electric taxis.

2.5 Principle 5: Across the EV charging network, EV charging systems will be interoperable and as simple as possible to use

Ensuring interoperability and simple charging interfaces is a crucial part of a reliable and easy-to-use charging network. At an EU level, AFIR supports this principle, laying down common technical specifications and requirements regarding transparent user information, data provision and sharing and ad-hoc payment requirements.

The simpler and easier to use these systems are, the more people will be able to use them. Interoperability will therefore continue to be a key requirement in the rollout of EV charging infrastructure for the duration of this strategy and beyond.

Chapter 3 /

Ireland's Current EV Ecosystem: Challenges and Opportunities on the Road Ahead



3. Ireland's Current EV Ecosystem: Challenges and Opportunities on the Road Ahead

EV adoption plays a key role in transitioning away from carbon-intensive, imported fossil fuels towards an increasingly greener electricity supply, while having the added benefit of reducing harmful air pollutants. While EV adoption in Ireland is increasing and the 2025 target has been met, meeting the 2030 climate action targets will require continued progress to develop the necessary charging infrastructure to provide confidence for drivers to make the switch to EVs. Assessing current levels of EV uptake helps to identify the key challenges and informs the actions needed to deliver a nationwide charging network that is accessible, equitable and meets the needs of all users.

This chapter provides a comprehensive overview of Ireland's current EV ecosystem, outlining progress to date while highlighting the challenges that remain in meeting 2030 climate and infrastructure targets. It reviews EV adoption trends across passenger cars, commercial vans and heavy-duty vehicles, and examines the expansion of Ireland's charging infrastructure, including home, public, destination and enroute charging.

3.1 Current Status of EV Adoption in Ireland

Transport represents the second-largest source of GHG emissions in Ireland with over 11.6 million tonnes of GHGs emitted in 2024, accounting for 21.7% of total emissions.[19] The transport sector has shown the greatest overall rise in GHG emissions with an increase of 113.7% since 1990. As per Ireland's Road Haulage Strategy 2022-2031, emissions from HGVs were responsible for 20% of total transport emissions, while light goods vehicles (LGVs) accounted for 18% of total transport emissions. Fleet electrification is expected to provide the greatest share of emissions abatement in the short term, with a target of 30% share electric of all passenger vehicles on the road by 2030.

3.2 Electrification Target

Ireland's national ambition to transition towards EVs is anchored in the Climate Action Plan. This sets ambitious electrification targets for both 2025 and 2030 for privately-operated passenger vehicles, vans and heavy-goods vehicles (see Table 2), which includes battery electric (BEV) and plug-in hybrid electric (PHEV) vehicles. These targets form a critical part of the goal to reduce greenhouse gas emissions from the transport sector by 2030 by 50% relative to 2018 levels.

19 https://www.seai.ie/data-and-insights/seai-statistics/transport

	2025 Target	2030 Target
	175,000 passenger EVs	30% share of total passenger EVs fleet
	20,000 commercial vans	20% share of total commercial vans fleet
	700 low-emission HGV	30% of new HDVs registrations are electric
	300 electric buses	1,500 electric buses
Abatement Target (vs 2018)	1.96 $MtCO_2eq$	4.74 $MtCO_2eq$

Table 2. Key CAP Targets for the Electrification of Privately and Commercially Owned Vehicles

To understand the scale of this transition, it is helpful to examine the uptake of EVs across the main road transport segments to date. The following sections outline the strategic outlook of passenger EVs, light commercial vans and heavy-duty vehicles (HDVs), each of which plays a distinct role in achieving Ireland's decarbonisation targets.

3.2.1 Electrification of Passenger-Sized Vehicles

As passenger-sized vehicles account for 77% of the overall vehicle fleet and roughly 49% of all road transport emissions in Ireland, their electrification plays a significant role in achieving decarbonisation targets.

Uptake of passenger EVs has more than doubled since the CAP 2023 targets were established. As per the information gathered from reports from the National Vehicle and Driver File, reflected more generally in the Table 3, as of end December 2025, there are currently roughly 205,000 private EVs on Irish roads.

EV adoption has increased due to several factors improving the attractiveness and viability of EV purchases, the total cost of ownership and convenience of use. Improved battery technology, increased range, more EV models and targeted government incentives, such as purchase grants, VRT relief and tax breaks, are boosting EV adoption by lowering costs, increasing choice and making ownership more appealing.

The expanding public charging network and the ability for the majority of drivers to charge at home have also improved attractiveness of EVs. Lower running and maintenance costs further enhance the total cost of ownership appeal, making EVs a more financially viable and environmentally attractive option for many drivers.

	End Dec 21	End Dec 22	End Dec 23	End Dec 24	End Dec 25
BEV	23,333	39,280	62,484	82,409	110,213
PHEV	24,388	34,294	47,858	66,554	94,661
TOTAL	47,721	73,574	110,342	148,963	204,874

Table 3. Annual uptake of BEVs and PHEVs in Ireland

3.2.2 Electrification of Commercial Vans

Although commercial vans represent only around 12% of the total vehicle fleet, they account for a disproportionate 22% of road transport emissions. However, as compared to the growth seen in electric passenger-sized vehicles, growth in the commercial van sector is lagging behind. As of Q43 2025, just over 7,475 BEV and PHEV commercial vans are registered in Ireland.

Commercial traffic, or industries that provide services like the delivery of goods or go to locations to provide a service, relies primarily on N1 vehicles - city, panel and box vans. Given commercial vans are linked to business activity, economic growth means that commercial van use increases, making the emphasis on transitioning this sector to electrification particularly important to meeting emissions targets. Particularly in urban settings, electric light commercial vans are advantageous compared to diesel and petrol vans due to the lower speed limits, repeated stops and regenerative breaking.

The commercial fleet makeup is diverse, ranging from sectors including goods delivery groups, catering services, and utility companies. Due to this diversity, to increase the market share of EVs the incentives required to overcome these hurdles may differ. Dependent on vehicle

usage needs, the barriers to transitioning from ICEVs to BEVs may differ from one fleet type to another. While the purchase price of a BEV is a strong barrier to electrification, other barriers include vehicle compatibility (namely the availability of suitable vehicle models), the suitability of battery ranges with driving needs and the load capacity of EVs.

Given the diverse barriers faced by different fleet types present in Ireland, a mix of policy measures is needed. Presently there are several incentives (Table 4) in place in Ireland to encourage fleet electrification, targeting pre-purchase awareness and attractiveness of EVs, purchasing power and the lifetime usage of the vehicle. The majority of incentives target barriers related to the upfront cost of acquiring vehicles. However, with time, measures targeting the ease and cost of use of fleet vehicles may be more appropriate as the profile of BEV penetration in Ireland shifts from early adoption to the majority market.

Category	Incentives	Barrier Targeted
Purchase	Vehicle Purchase Grant	Upfront capital
	Vehicle Registration Tax	Upfront capital
	Accelerated Capital Allowance	Upfront capital
	ICE2EV Scrappage Scheme	Upfront capital
Infrastructure	Charging Infrastructure Schemes	Range/charge anxiety
	Home & Apartment Charging Grant	Recharging cost/convenience
	Regulation for new build charging requirements	Recharging cost/convenience

Table 4. Vehicle electrification incentives available to businesses in Ireland

3.2.3 Electrification of Heavy-Duty Vehicles

The transition of HDVs will be critical in decarbonising the transport sector. Making up just over 2% of the total vehicle fleet but over 29% of road transport emissions in Ireland, HDVs disproportionately contribute to emissions given their high mileage.[20] [21] As of Q3 2025, just under 370 eHDVs are registered in Ireland, made up of approximately 70 eHGVs and 300 eBuses.[22] This is well below the CAP target of 700 eHGVs, but on track with the CAP target for 300 EV buses.

Shortfalls reflect several persistent barriers, including high upfront vehicle costs when compared to diesel alternatives, insufficient viable vehicle models available, barriers to installing adequate private depot charging including limited grid capacity, connection lead-in times, lack of availability of enroute charging infrastructure and concerns around vehicle range and operational reliability. To ease these barriers, the Zero-Emission Heavy-Duty Vehicle (ZEHDV) Purchase Grant Scheme was expanded in early 2025 to include funding not only for electric HDVs but also for depot and logistics hub charging infrastructure.

It is anticipated that the transition will follow a phased approach: passenger cars will lead, followed by vans, and finally HDVs, reflecting the relative barriers to adoption across these segments. As technology advances, charging infrastructure costs decline, and more affordable, compatible vehicle models enter the market, the electrification of HDVs is expected to accelerate.

20 https://epawebapp.epa.ie/ebooks/soe2024/303/

21 https://www.epa.ie/publications/monitoring--assessment/climate-change/air-emissions/EPA-1990-2022-GHG-Report-Final.pdf

22 https://alternative-fuels-observatory.ec.europa.eu/transport-mode/road/ireland/vehicles-and-fleet

To guide this transition, ZEVI has convened a multi-stakeholder HDV Electrification Pathway Working Group to examine barriers, share learnings and develop a long-term roadmap to 2040. Early analysis suggests electric HDVs could reach around 10% of light trucks and 4% of heavy trucks by 2030, with regulatory requirements driving further uptake. Some of the workings from this group will be discussed further in a dedicated chapter on HDV electrification in Chapter 5.

3.3 Existing Charging Infrastructure

The development of a robust and reliable public charging network is a crucial factor in enabling widespread adoption of electric vehicles across all sectors and user groups. Home charging is, and is expected to remain, the most common way that drivers power their vehicles. However, a well distributed public charging network is necessary to support broader adoption of EVs and to address concerns about range and access to charging.

Many households do not have access to private driveways or dedicated parking spaces where a home charge point could be installed. This is particularly relevant in urban areas where people live in apartments or homes with shared or on street parking. In these cases, access to convenient and reliable neighbourhood charging is essential. Public charging helps ensure that people who cannot charge at home are not placed at a disadvantage and can still participate fully in the transition to electric mobility.

At present there is no robust national dataset on the exact proportion of Irish dwellings that have off street parking or reliable home charging potential, which represents a significant evidence gap. Given the importance of understanding how many households can realistically install a home charge point and how many cannot, improving data collection in this area will greatly support planning for equitable EV-charging access.

A strong public charging network is also vital for a range of other uses. Commercial fleets, including delivery vehicles, taxis and other service providers, often need access to public charging during the working day to maintain operations. Long distance travel also depends on an effective network of high-power chargers located on national and regional routes.

As of December 2025, it was estimated that there were approximately 3,237 charge pointss of between 142–195MW nationwide. This represents significant progress since the publication of the first National EV Charging Infrastructure Strategy in 2022. Continued expansion and careful planning will be important to ensure that the network keeps pace with growing demand and remains accessible, reliable and suitable for different types of users.

3.3.1 Growing the Public Charging Network

As of 2025, the capacity of the charging network has doubled since 2023. Much of this infrastructure is being installed in urban centres and popular destinations, making it easier for drivers to charge where they live, work and shop. Exchequer support and investment will be key to ensuring EV charging infrastructure is provided across the country meeting a variety of user needs, including in what might be less commercially attractive locations where the private sector may not invest on a standalone basis.

In line with AFIR requirements for TEN-T corridors, in the coming months and throughout 2026, new charging hubs and infrastructure will be installed at regular intervals along national roads, supporting longer journeys and inter-county travel.

ZEVI, in collaboration with key stakeholders, has supported the expansion of public charging through multiple funding schemes over the past few years. Table 5 provides an overview of the current funded schemes.

Scheme Name	Funding Amount	Purpose	Locations Targeted
Climate Action Fund & ESB	€10 million	Upgraded and expanded the EV charging in Ireland, delivering over 55 charging hubs, upgrading 100 charge points to higher speeds, and replacing almost 500 existing charge points – now completed.	Nationwide
ZEVI TII EV Charging Infrastructure LDV En-Route Grant Scheme – Phase 1 (LDV1)	€9.2 million	Funds 149 fast and high-power charging points across 19 charging pools along the national motorways on the national road network, at service areas and retail facilities within 3km of motorway exits.	National Road Network
ZEVI TII EV Charging Infrastructure LDV En-Route Grant Scheme – Phase 2 (LDV2)	€13 million	Funds 175 fast and high-power charging points across 53 charging pools along single carriageway roads on the national road network. Each site will have multiple 150–350kW chargers, placed at existing service stations, hotels, and retail car parks.	National Road Network
ZEVI TII EV Charging Infrastructure LDV En-Route Grant Scheme – Phase 3 (LDV3)	€9.9 million	Continues the expansion of enroute fast charging infrastructure with 192 charging points across 90 pools remaining primary and secondary roads on the national road network outside of the TEN-T Network to provide chargers along underserved corridors.	National Road Network
Shared Island Sports Club EV Charging Scheme	€15 million	Funds publicly accessible fast chargers at sports clubs across Ireland and Northern Ireland. Initial EV charger installations at sports clubs are expected to start in Q1 2026, with most completed in 2026, pending grid approvals and delivery.	Sports clubs across the island
Home Charging Scheme	Up to €300 per household	Subsidises the installation of home AC chargers (typically 7kW) for private EV owners. Applies to homes and visitor-ready properties. Tens of thousands supported since 2018.	Private residences
Apartment Charging Grant	Varies	Supports shared or individual chargers for apartment and housing complex residents, to expand equitable access to home charging.	Apartments and residential complexes
Shared Charging Pilot Scheme	€<1 million	Enables homeowners to share private chargers via a mobile application with other EV drivers in the area, with a focus on suburban or rural locations lacking public infrastructure.	Residential areas
eSPSV Infrastructure Grant Scheme	€1.5 million	Installed dedicated charge points at major transport hubs nationwide, including train stations and airports, to support electrification of taxi fleets. Since 2020, hubs in Dublin, Cork, Limerick, and Shannon have been equipped, with ongoing expansion funded for additional Irish Rail locations.	Major transport hubs

Scheme Name	Funding Amount	Purpose	Locations Targeted
Zero-Emission Heavy Duty Vehicle – Recharging Infrastructure Grant Scheme	State Aid amount varies	Supports charging infrastructure at depots and logistics centres for heavy-duty EVs (e.g. HDVs, buses).	Depots
Dublin Local Authority Destination Scheme	TBC	Fingal County Council is leading a major programme to install 200 new charge points across 50 strategically selected locations. This initiative will add approximately 8,900kW of new charging capacity, significantly strengthening ability to meet growing EV demand. To accommodate a wide variety of user need, including commuters, residents, and commercial fleets, the rollout will include high power charging infrastructure ranging from 50kW to 200kW.	Destination charging locations
Limerick City and County Council Pilot Scheme	€>1 million	Supports the civil and infrastructure works required to install charging stations at 13 locations across the city and county. The deployment includes twelve 100 kW DC chargers and one 22 kW AC charger, collectively providing an additional 1,200 kW of charging capacity.	Destination charging locations

Table 5. Overview of Previous and Current Public Funding Support for EV Charging Infrastructure Across Ireland



3.3.2 Availability of Public Charging for Heavy-Duty Vehicles

While infrastructure for passenger vehicles is expanding, there remains a major shortfall in strategically located high-powered charging for HDVs. Deployment has fallen behind national targets. With over 99% of HDVs still diesel-powered, the sector is considered hard to decarbonise. The Global Memorandum of Understanding on Zero-Emission Medium and Heavy-Duty Vehicles targets at least 30% of new bus and truck sales to be zero-emission by 2030 and 100% by 2040.

The Zero Emission Heavy Duty Vehicle Scheme (ZEHDV), administered by TII on behalf of ZEVI, opened in February 2024 to support companies and enterprises who wish to purchase zero emission HDVs. The scheme incentivises the transition from combustion engines to zero emission HDVs by offering a purchase grant of up to 60% of the price differential between the two options. In 2025, ZEVI announced the ZEHDV-I purchase grant scheme to include a purchase grant for charging infrastructure to assist with demand for HDV depot and public charging.

This additional grant was suggested to assist applicants who apply for the vehicle purchase grant with the option to install their own depot charging and separately to facilitate public charging around, but not limited to, urban nodes and ports. In connection with the expanded ZEHDV scheme, a voucher scheme, as administered by the SEAI, allows SMEs to access a fleet audit to support future transition of vehicles.

Ireland's short driving distances, compact road network and lack of transiting HDV traffic means widespread public HDV charging may risk oversupply, as most vehicles can recharge at depots. Most freight movements within Ireland are regional or short-haul, meaning that depot-based overnight charging will likely meet the majority of energy demand. Consequently, public HDV charging infrastructure will be strategically limited to key points along the TEN-T Network, urban nodes, logistics hubs and ports where opportunity charging or top-ups may be operationally justified. A data-driven, demand-led approach will be essential to avoid stranded assets while still meeting AFIR obligations. In the coming years, ZEVI will lead on targeted phased investment, technological innovation and industry collaboration in this area.

3.3.3 Key Players and Market Dynamics in the Public Charging Network

Ireland's EV charging ecosystem is undergoing rapid transformation driven by active government support, increasing private sector participation and rising consumer demand for electric mobility.

An increasing number of private operators have entered the market in the 2022–25 period, bringing competition, innovation and investment – particularly in urban centres and high-traffic destinations where demand continues to accelerate. Increasing competition in the EV charging sector will be key to improving customer experience and affordability.

This expanding market presence is contributing to a more resilient and responsive charging network. However, barriers to installing and maintaining public EV charging in Ireland have hampered the rollout. CPOs face barriers such as grid connection delays in quotation and delivery, high capital costs and uncertainty around long-term demand and return on investment. These challenges are discussed in more detail in chapter six below.

Geographic imbalances also persist, with some lower-density areas remaining under-served due to weaker commercial cases, while urban demand is moving ahead. Ensuring equitable access across all regions will require continued public investment and clear policy signals to de-risk private sector participation in challenging locations.

To this end, ZEVI and TII-led public programmes have played an active role in bridging these gaps, particularly through the rollout of enroute charging along the national road network via the LDV1, 2 &3 schemes and Shared Island Sports Club Scheme. These provide substantial upfront capital support to offset the high costs of deploying high-speed EV chargers, helping to mitigate financial risk in locations where early-stage utilisation may be limited.

As Ireland's EV charging sector shifts from early-stage deployment to a more dynamic and competitive phase, continued strategic alignment of national and local government actors with energy utilities, grid operators and private CPOs will be critical.

3.4 Challenges and Opportunities on the Road Ahead

As EV technology advances and demand continues to grow, charging infrastructure will remain a critical enabler of the transition to electric mobility. Four main categories of charging infrastructure are identified for LDV EV drivers, all serving different user needs, depending on where and when people need to charge their EVs:

- Home/apartment charging (AC charging – mostly private)
- Residential neighbourhood charging (AC charging, replicating off-peak charging options for people without access to a home charge point)
- Destination charging (DC fast)
- Motorway/en-route charging (DC high powered charging)

In the years ahead, several key challenge areas are expected to become increasingly pressing, with the potential to affect the pace and equity of this transition. These challenges are introduced here to set the scene for the following three chapters which discuss opportunities for addressing these challenges.

3.4.1 Meeting Network Targets

Ireland's public EV charging infrastructure targets are shaped by two key policy drivers: the CAP emissions reduction targets for transport and the AFIR public charging infrastructure requirements. Though progress has been made, reaching the charging infrastructure power output targets of 214MW and 712MW by 2025 and 2030 respectively will present a continuing challenge.

While EV charging infrastructure for private users of passenger-sized vehicles continues to expand, there are gaps in public charging provision for HDVs and commercial vehicles like taxis and delivery vans. The existing public charging network is not well-configured to support the space or power requirements of HDVs.

Similarly, commercial vehicle drivers are disproportionately reliant on public infrastructure, especially in dense urban areas. Expanding access to fast, reliable charging, particularly in city centres, near taxi ranks and at busy transport hubs, will help improve operational efficiency and support commercial drivers. Strategically placed high-powered chargers across the country will play a vital role in enabling a fair and widespread transition to EVs across all sectors and regions.

While AFIR sets mandates for the distribution of charging along the TEN-T network, over the coming years, active expansion of charging in low-density, low-profit areas is also needed.

3.4.2 Widespread Distribution

Currently, public chargers are concentrated in urban areas, with some rural areas poorly served. Given the longer driving distances and higher car dependencies in rural areas, electrifying mobility in these areas has the potential to contribute to significant emissions reductions.

Ensuring a regionally balanced distribution of chargers will be critical to supporting a shift away from internal combustion engine (ICE) vehicles, particularly in areas and for journeys where sustainable transport alternatives are unviable. To encourage a widespread network, the Regional and Local EV Charging Network Plan allocated national charging targets for destination and residential charging to local authorities. Continued support to and coordination with local authority personnel will be key to ensuring that small towns, villages, and rural communities are not left behind in the electrification process.

3.4.3 National Electricity Demand, Grid Capacity & Connections

As the number of EVs on Irish roads increases, the additional load on Ireland's electricity network presents a significant and growing challenge. The national grid is already experiencing increased pressure due to rising demand across multiple sectors, with total electricity consumption expected to rise by approximately 45% over the next decade.

The growing demand, particularly from clustered charging hubs, fast chargers and commercial fleets, may stress local distribution networks that were not originally designed for such loads. These pressures are likely to be felt unevenly, with some areas facing longer connection lead times and higher upgrade requirements.

Managing the variability and concentration of EV charging demand also poses operational challenges for the grid. Without widespread behavioural data on charging patterns, accurately forecasting variability and peaks in usage remains a challenge for the system operators.

Connection timelines for new charging infrastructure are often lengthy and uncertain, creating delays in deployment and discouraging investment. In many cases, local grid constraints act as a bottleneck for site development, particularly for high-powered charging depots for larger load schemes. As demand rises and charger numbers multiply, these network capacity limitations risk slowing overall infrastructure expansion.

Achieving Ireland's climate and transport decarbonisation goals will depend on proactive, forward-looking planning and robust collaboration between energy providers, network operators and charging infrastructure developers. Enhancing demand-side management will be key to ensuring that increased electricity use from EVs contributes to a resilient, low-carbon energy system rather than overwhelming it. Central to this will be the adoption of innovative technologies and measures, such as smart charging systems, time-of-use tariffs and vehicle-to-grid (V2G) capabilities, that support more flexible and efficient use of the grid.

3.4.4 Public Charging Prices

To remain cost-competitive with ICE (internal combustion engine) vehicles, EVs must deliver lower long-term operating costs given that the upfront purchase prices for new and second-hand vehicles remain comparatively high. Charging costs are a significant component of operating costs; for EVs to be competitive, the average cost of recharging needs to be lower than the cost of refuelling with petrol or diesel.

Various factors influence the cost of electricity, including the energy mix and use of renewables and the structure of taxes, levies and subsidies. For EV users, charging costs additionally also depend on the speed of the infrastructure, where charging occurs and who owns the infrastructure.

Public charging is typically more expensive than home charging as public charging tariffs reflect a range of specific underlying costs borne by CPOs, including wholesale electricity prices, grid connection fees, land rents, equipment costs and ongoing maintenance. CPOs are also subject to recurring network charges, such as capacity and demand charges, which can be particularly high for fast and high-power charging sites due to their peak load requirements. Together these factors increase tariffs relative to home charging.

ZEVI is, through providing significant capital investment in public charging, aiming to attract new providers and thereby increase competition in the EV charge point sector. There is also the potential to consider the requirement for pricing controls in certain targeted scenarios, such as in providing overnight charging for residential users who have no access to home charging solutions and in apartment charging schemes. Some local authority led infrastructure hubs are introducing such options on a pilot basis to test viability.

Looking ahead, the introduction of flexible and dynamic pricing on the public charging network could also help reduce costs for users. By aligning tariffs with periods of lower wholesale electricity prices, these measures can make public charging more affordable and improve the overall cost competitiveness of EVs.

Price setting by electricity suppliers and charge point operators is a commercial and operational matter for the companies concerned. There are no current plans to introduce regulation on charging costs within the public EV charging sector. However, the Department will continue to monitor developments in the EV charging market, including pricing trends and impacts on users who rely on public charging, as part of its ongoing engagement with stakeholders and its wider work on the delivery of a fair, accessible and reliable EV charging network.

3.4.5 User Experience

In addition to cost, users have highlighted challenges associated with fragmented payment systems, including the need to use multiple applications, accounts or access methods across different charging providers. This can create confusion, reduce convenience and act as a barrier to wider EV adoption. AFIR directly addresses these concerns through requirements for ad-hoc payment, contactless access and transparent pricing. Ensuring consistent implementation of these requirements will be critical to improving the overall user experience.

AFIR also requires Charge Point Operators to share dynamic, near real-time data on charger availability, status, connector type and power output through open data channels. This obligation is central to addressing user concerns about reliability, as it enables drivers to see in advance whether a charger is operational and available, and supports the development of third-party tools and route-planning applications that improve confidence in the public charging network.

3.5 Summary of Ireland's EV Ecosystem

To inform the development of this strategy and ensure it is both grounded and forward-looking, ZEVI undertook a Strengths, Weaknesses, Opportunities & Threats (SWOT) analysis. This analysis provides a high-level overview of the key strengths, weaknesses, opportunities and threats associated with the rollout of Ireland's EV charging network. By highlighting strengths, challenges and emerging risks or opportunities, the SWOT analysis supports effective planning and decision-making, while also promoting transparency around the complex and evolving environment that shapes and informs this strategy.

The SWOT analysis draws on a review of the previous national strategy, its implementation, and input from both public and private stakeholders. A summary of the SWOT analysis is presented in Table 6.

Strengths	Weaknesses
Strong collaboration: ZEVI has fostered strong collaboration with various stakeholders to increase its awareness of challenges to and opportunities for encouraging the transition to EVs.	**Planning complexity:** Complex planning requirements impede or slow implementation.
Accessibility leadership: ZEVI introduced the Universal Design Guidelines for EV Charging Infrastructure in 2024 to support the rollout of publicly accessible chargers that anyone can use delivering on ZEVI's commitment to provide accessible and inclusive charging options.	**Regulatory barriers:** Restricted access to home-charging for those without off-street parking.
Early market support: Investment in and strong market response to schemes, such as the three LDV schemes, home charging, and apartment charging, provide early market support.	**Technology uncertainty:** Improved battery technology and increasing EV ranges may disrupt current planning around the need for a densely populated public charging network.
High-mileage transition: The eSPSV scheme has seen significant appetite, supporting high-mileage small public service vehicles (e.g. taxis) in shifting to EVs.	**Commercial risk:** Commercial viability of public chargers continues to be a risk for providers.
Supportive tax policy: Governmental reform of the BIK tax system has provided more long-term certainty and helps incentivise the uptake of company EVs, which in turn can promote a second-hand market.	**Public misinformation:** Misinformation around EVs and charging infrastructure can hinder EV adoption.
Improved charging experience: Government Regulations are making EV chargers more interoperable for EV users – since mid-April 2024, all new chargers 50kW or more must allow ad-hoc charging to users.	**Slow fleet transition for non-passenger cars:** Although viable alternatives to diesel and petrol-powered commercial vans exist, the sector has been lagging in electrification.
	Pricing Differential: Additional charging costs borne by those without access to home charging.
	Reliability and maintenance: Inconsistent uptime and maintenance standards across the existing network can erode user confidence and discourage investment.

Opportunities	Threats
Declining purchase prices: EVs are an increasingly attractive alternative to a new ICE vehicle purchase, leading to increased EV adoption.	**Global supply chain risk:** Global political uncertainty can disrupt global supply chains and negatively impact EV purchase prices.
Cost-competitive use: Low night-time charging rates help reduce the total cost of ownership for EV owners, making EVs more cost competitive over ICE vehicles.	**Demand for vans and HDVs:** Though demand for passenger-sized EVs is strong, demand for other vehicle types is weaker, in part due to vehicle models and numbers available, thwarting the electrification of higher polluting vehicles.
Last-mile electrification: Electrifying last-mile vehicles, which typically are also high-mileage vehicles and contribute disproportionately to CO_2 emissions, can help meet CAP targets.	**Resale value uncertainty:** Resale values of EVs, which may be of particular concern to certain stakeholder groups such as rental car companies.
International learnings: Numerous countries have successfully increased their EV adoption rates and developed extensive public charging networks, offering precedents Ireland can learn from.	**HDV charging needs:** High-mileage trucks, buses and coaches are difficult and costly to electrify due to charging requirements at depots
Range compatibility: Driving distances in Ireland are generally within current battery ranges, for both routine and longer distance trips.	**Grid capacity constraints:** Limited grid capacity can significantly inflate time required and the costs of implementing chargers due to grid upgrades required.
Shared charging models: Innovation in shared charging can encourage a new model for charger provision, reducing reliance on public chargers.	**Grid overload risk:** EV chargers, particularly fast and ultra-fast, demand substantial power which may overload local distribution networks not originally designed for such loads.
Grid support technologies: New technologies, like bi-directional charging, can support grid resilience.	
Permitting Changes: Review of planning exemptions relating to public EV charging is underway with legislation due in 2026.	
Open data mandate: As of April 2025, CPOs have been required to openly share data, which will facilitate access to data needed to support end-user information needs.	
Performance-based contracting: Use of contractual KPIs in publicly funded schemes (e.g., uptime, successful charging sessions, data sharing) supports reliability, accountability and investor confidence.	

Table 6. SWOT Analysis of EV Charging Infrastructure Deployment in Ireland



Chapter 4 /

Light-Duty Vehicles: Network Targets and Implementation Strategy



4. Light-Duty Vehicles: Network Targets and Implementation Strategy

A core objective of this strategy is to continue supporting a coordinated and planned approach to LDV charging infrastructure delivery. A nationally consistent rollout supports the efficient installation of EV charge points, enabling the accelerated development of publicly accessible charging infrastructure aligned with the fundamental principles.

Publicly accessible locations such as town carparks, hotels, tourist destinations, and community hubs (including schools and rural centres) all present opportunities to meet the diverse needs of all EV users. During the period of this strategy, ZEVI will focus on expanding the public destination and neighbourhood charging networks at these types of sites, while aligning rollout with EV demand forecasts. When discussing LDVs, this strategy is referring specifically to cars and vans, along with the supporting recharging infrastructure required to serve both vehicle categories.

4.1 LDV User Needs

User needs refer to the expectations and requirements that various users have when interacting with EV charging infrastructure. EV users' charging needs will vary depending on the purpose of their trip, typically requiring charging infrastructure to be conveniently located to reduce disruption to the user's planned journey and to deliver power at the level required for the expected duration of stay.

For example, on long-distance journeys, the user's primary need is to resume travel as quickly as possible, which makes high-powered chargers located along motorways and national roads the most suitable solution. For EV users staying at accommodation facilities such as hotels or guesthouses, slower AC charging enables users to charge overnight and have a fully charged EV in the morning, without having to interrupt their evening to move the vehicle.

Private LDV users will primarily charge their EVs at home. Some EV owners will be unable to charge at home using privately installed charging infrastructure, due to a lack of off-street parking or proximity to a location suitable for a private home charger. For these users without access to private charging, comparable charging should be provided where feasible.

These user needs in Figure 5 are derived from persona-based analysis and reflect the diverse charging requirements across Ireland. The personas are described in further detail in Appendix A.

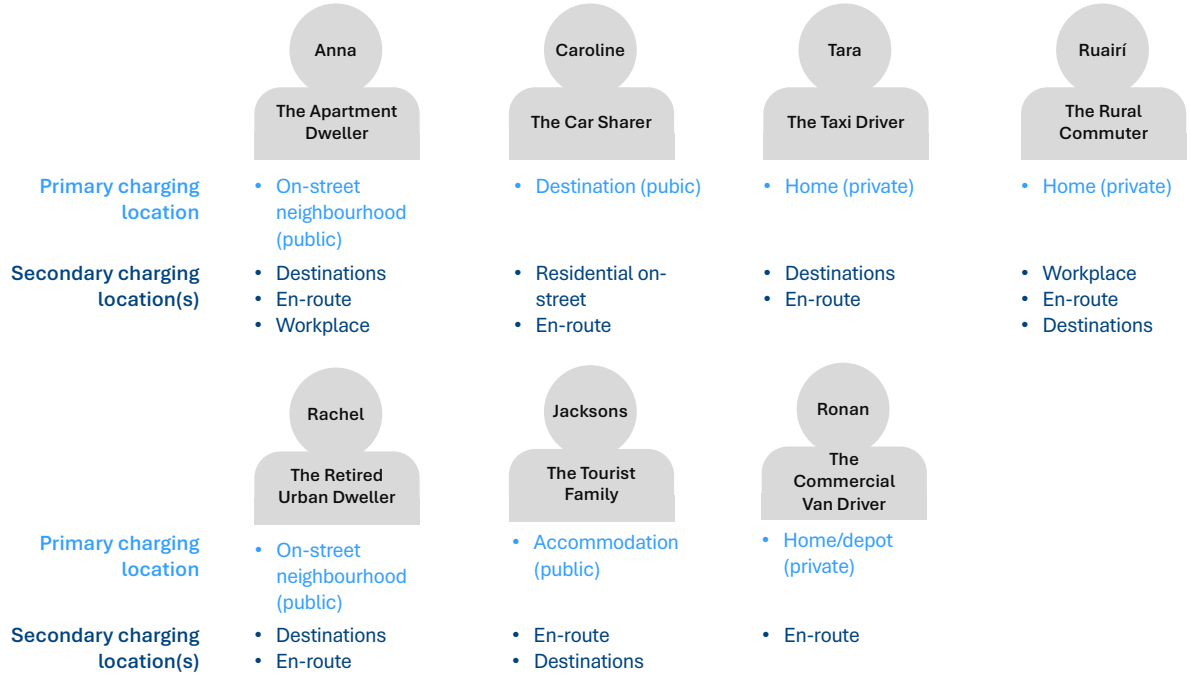


Figure 4. **Typical primary and secondary charging locations to meet personas' charging needs**

To support Principle 4 (*For the majority of EV users, home charging will remain the main solution*) there are several key user groups and scenarios whereby publicly accessible charging is key. These include individuals living in apartments or dwellings without off-street or adjacent parking, who lack the capability to charge at home.

Additionally, there are users travelling between locations for work or leisure who require quick top-ups along their route or at their desired destination. The needs of domestic and international tourists, as well as commercial fleets such as car rentals, taxis and car-sharing services, also play a significant role. Furthermore, even EV owners with home charging access may still require charging whilst away from base. These use cases can be effectively linked to defined personas to ensure tailored infrastructure planning and service delivery.

Accessibility is a cross-cutting user need that applies to all charging locations, not solely to specific user groups. The Universal Design Guidelines set out the design and operational standards that publicly funded charging infrastructure must meet to ensure that chargers can be accessed and used by people of all ages, abilities and mobility needs. Continued engagement with DPROs will inform the ongoing evolution and application of these standards across the network.

4.1.1 Meeting Multiple User Needs

A single location can meet multiple user needs by providing multiple chargers with various power output levels. These user needs may be spread across the different times of day. By locating charging infrastructure where there are overnight and daytime user needs, infrastructure's utilisation can be better optimised without compromising the availability of the chargers for users. Future funded charging infrastructure should aim to match the expected duration of users' stays based on the activities users undertake at a given location.

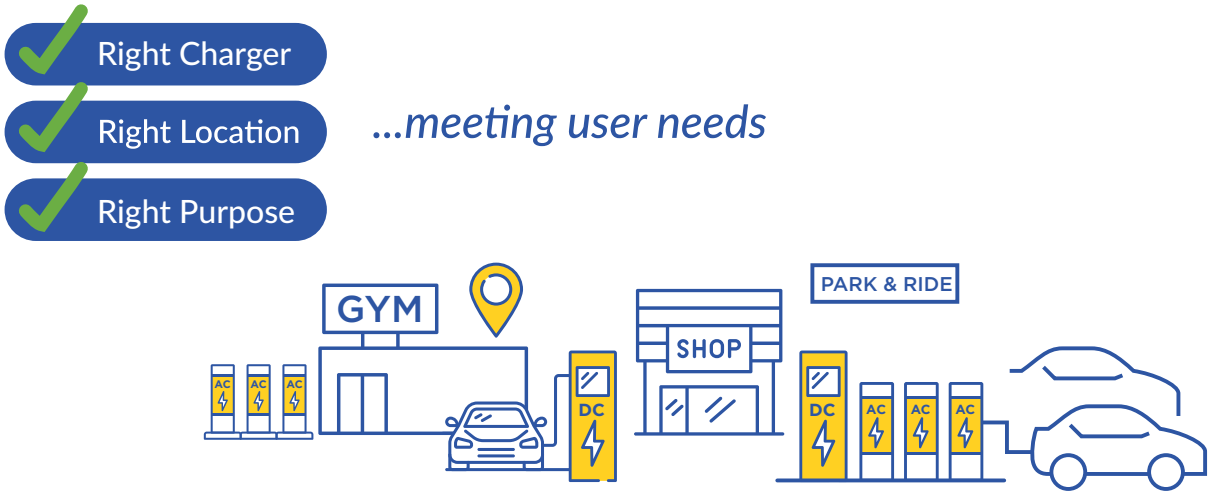


Figure 5. Meeting user needs

4.2 Implementation of the National Road EV Charging Network Plan

ZEVI and TII have introduced an initial series of grants under the ZEVI EV Charging Infrastructure LDV En-Route Grant Scheme, implemented through a three-stage delivery approach. The scheme adopts a network-based approach that prioritises the development of a coherent, reliable and geographically comprehensive charging system. Across its three phases, the scheme supports the deployment of high-power and fast along the national road network.

The funding was awarded to the successful parties following a competitive tender process run by TII. The scheme funds the majority of the CapEx elements of an AFIR compliant pool including civil works, electrical infrastructure, batteries (where applicable) and chargers. There were a number of mandatory requirements including the level of installed charger capacity, Maximum Import Capacity (MIC) and all pools had to be within 3km of the nearest motorway exit.

Taken together, the three phases of the LDV scheme form a coherent and complementary programme of delivery that progresses from high-demand motorway corridors to a fully realised national charging network. LDV1 establishes the core backbone of high-power charging along key inter-urban routes, LDV2 extends this coverage across the broader TEN T network, and LDV3 completes the system by addressing regional gaps and ensuring equitable access. This phased approach ensures that infrastructure deployment is both strategically targeted and responsive to evolving demand.

Substantial progress has been made across planning, funding allocation and site selection, with 162 applicant sites announced across the three schemes. These sites will provide 71MW of recharging capacity across 516 recharging points.

The majority of these schemes have now acquired the required grid capacity , with many sites curently live or in delivery.

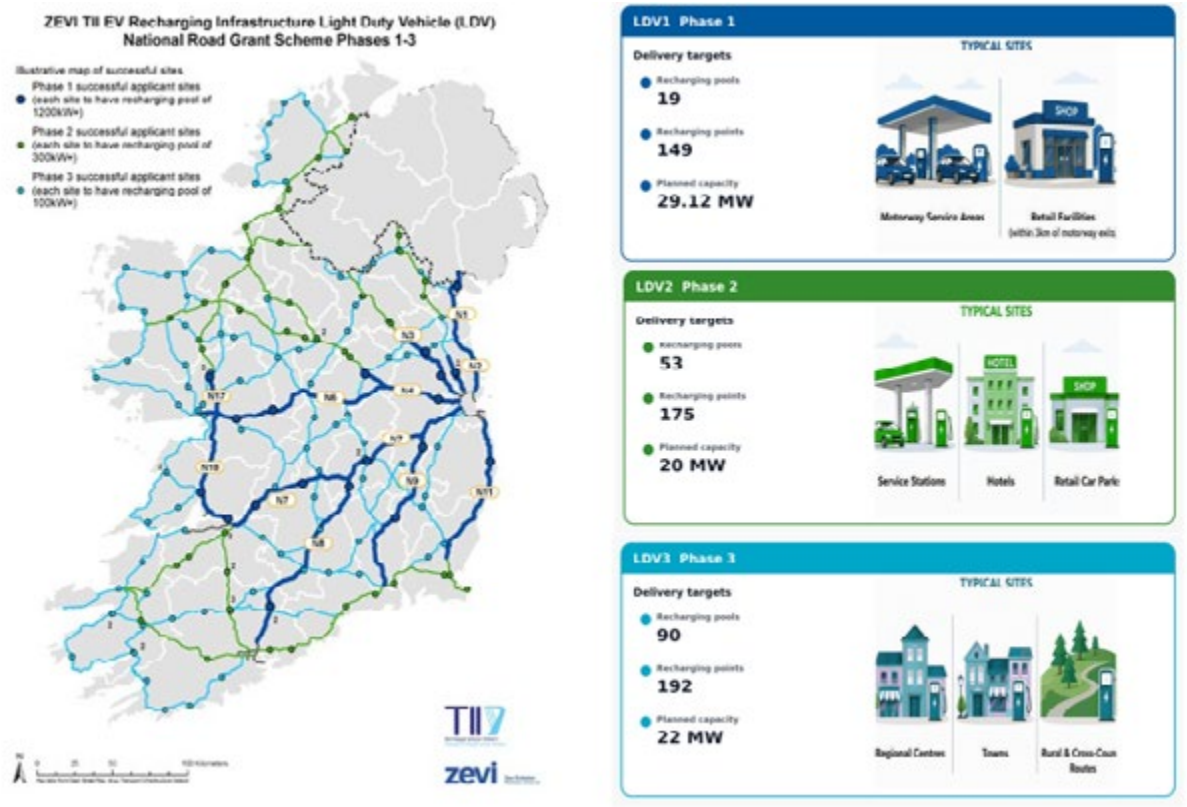


Figure 6. LDV Scheme Map



4.2.1 LDV1: Motorway and Motorway-Adjacent High-Power Charging

The first phase of the LDV Grant Scheme (LDV1) represents the core backbone of the national charging network, targeting Ireland's busiest and highest-demand road corridors. The first ZEVI EV Charging Infrastructure LDV En-Route Grant Scheme – LDV1 was launched by TII and ZEVI in February 2024. In line with Article 3 of AFIR, this initial grant scheme targeted the motorway/dual-carriageway network, ensuring the delivery and installation of high-power recharging pools with 1200kW power output every 60 kilometers, with at least four 150kW recharging points in each pool. The scheme targets publicly available facilities within 3km driving distance of the motorway/dual carriageway network such as service area operators, hotels and retail outlets.

In July 2024, the locations of 17 successful applicant sites were announced for the rollout of new high-powered recharging pools on the National Road Network. To ensure balanced coverage across the National Road Network, a second round of Phase 1 launched in late 2024, focused on specific areas (sub-zones) and bringing the total number of awards to 19.

Combined, the grant support offered for the development of the 19 high-powered recharging pools targets the delivery of 149 high-powered recharging points and approximately 29,120 kW (29 MW) of recharging capacity.

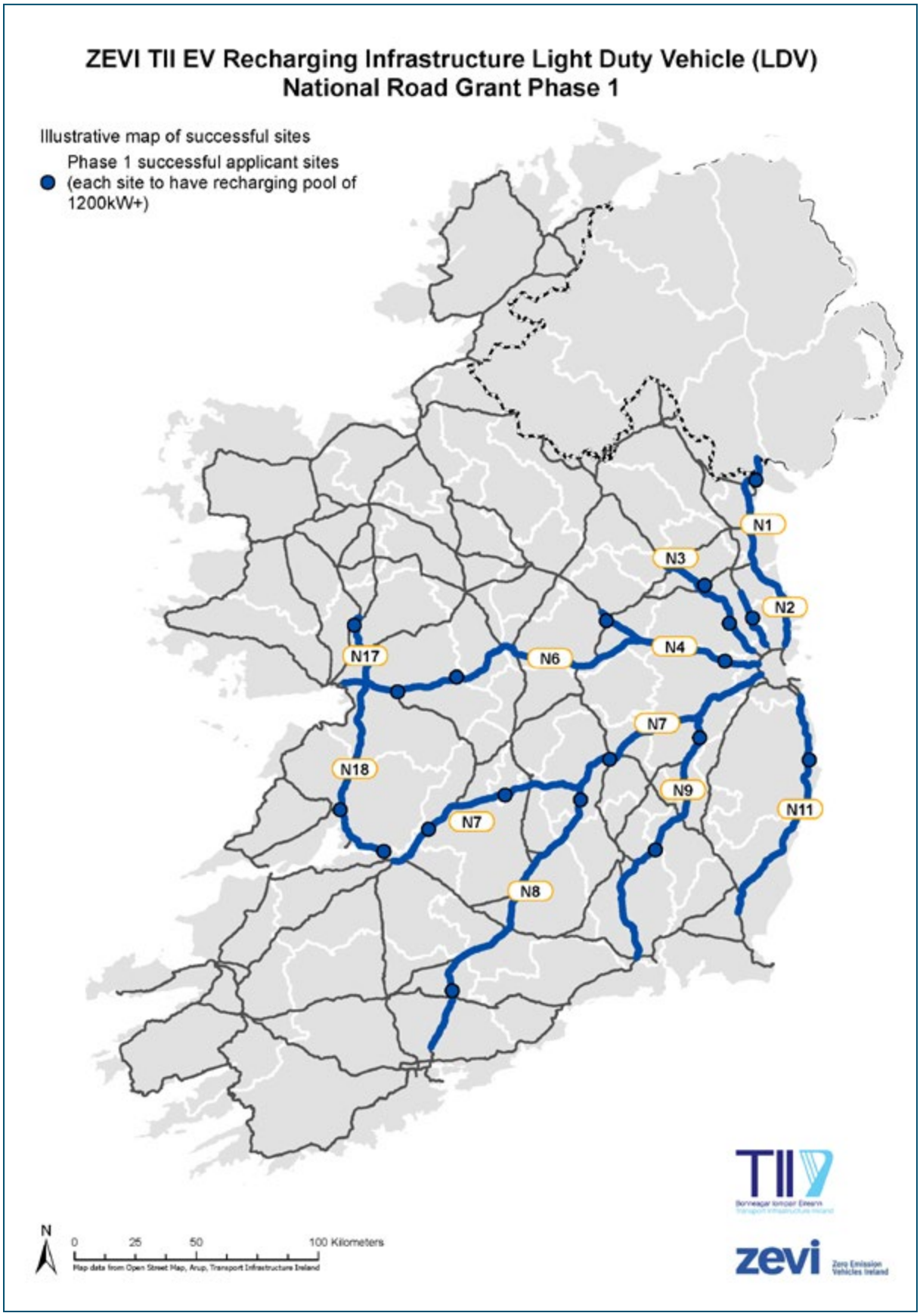


Figure 7. LDV1 Scheme Map

4.2.2 LDV2: En Route Charging on the TEN-T Single Carriageway Network

LDV2 extends the provision of high-powered en-route charging beyond the motorway network and onto the 1,200km of national single carriageway roads which form part of Ireland's TEN-T network. This scheme ensures that key corridors are equipped with multiple high-powered chargers at each site, located at existing service stations, hotels and retail car parks. LDV2 supports compliance with emerging European requirements while improving the reliability and consistency of EV charging for all EV drivers.

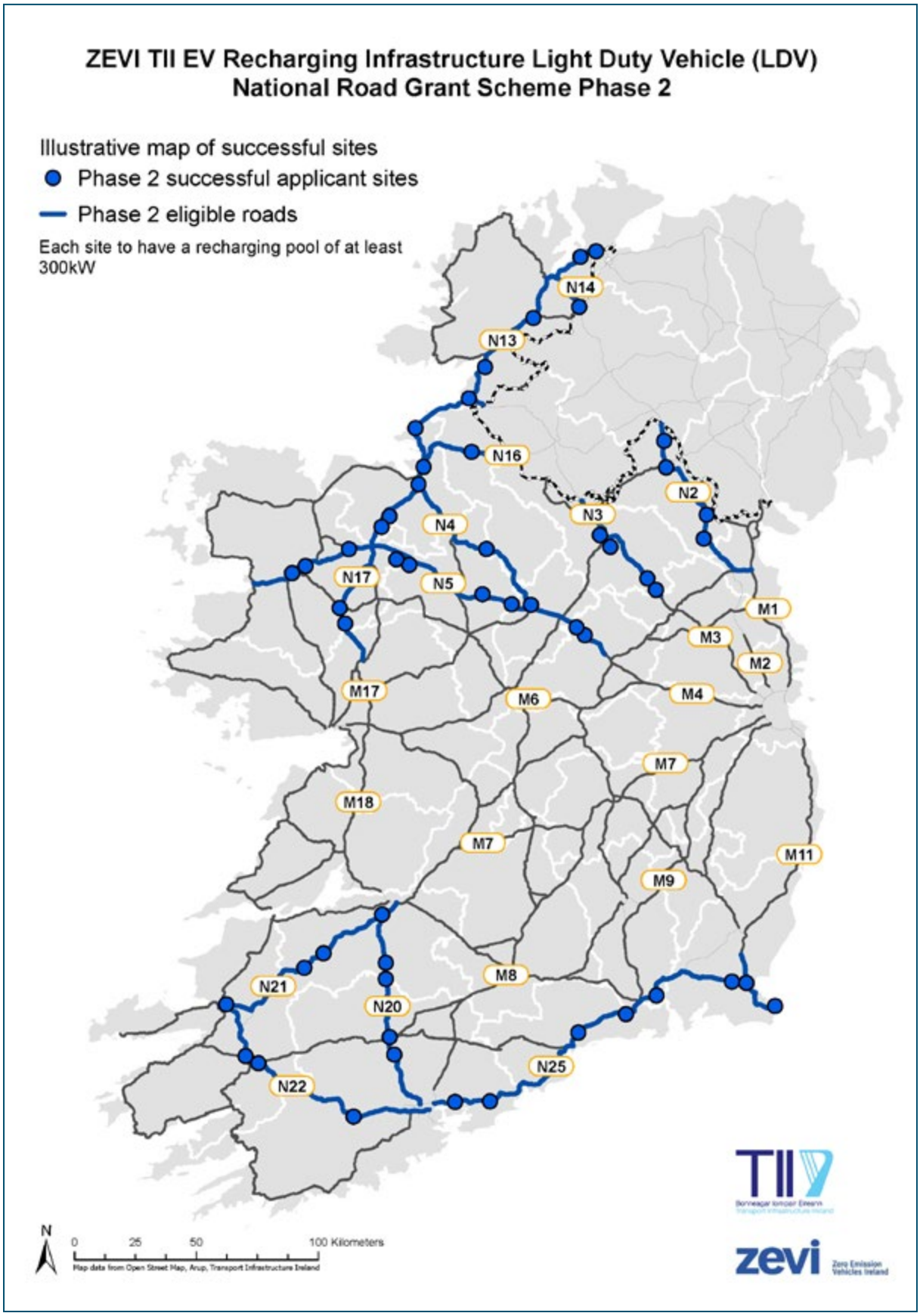


Figure 8. LDV2 Scheme Map

4.2.3 LDV3: High-Power and Fast Charging Across the Primary Road Network

Launched in February 2025, LDV3 builds on the earlier phases by funding the rollout of high-powered and fast-charging infrastructure along 3,000km of primary and secondary roads which lie outside the TEN-T network. This phase targets significant geographic gaps, particularly along routes that serve towns, regional centres and cross-county travel.

By providing high power and fast chargers in these areas, LDV3 improves regional equity and ensures that communities across Ireland can participate fully in the transition to electric mobility. The scheme focuses on locations where there is demonstrable local or regional need, supporting both private drivers and commercial operators whose journeys depend on these road networks. LDV3 plays an essential role in achieving a balanced national charging system and supports the delivery of strategically placed charging infrastructure that will meet rising EV demand in the years ahead.

In October 2025, the locations of the 90 successful applicant sites were announced. Combined, the grant support offered for the development of the 90 new high power and fast recharging pools targets the delivery 192 high-powered recharging points, providing an additional 22,000 kilowatts (22 Megawatts) of recharging capacity.

LDV Scheme Delivery

This funding provided under the LDV scheme will support the delivery of over 70MW of recharging power across Ireland's National Road Network.

The delivery of the LDV schemes remains ongoing and is not yet complete. Awards for all three schemes have been made and much of the infrastructure is under construction or in development. Delivery timelines continue to be influenced by a range of external factors, including grid connection constraints, planning and permitting processes, site readiness, and market capacity.

The full benefits of the scheme, in terms of network coverage, reliability and user experience, will only be realised as rollout progresses over the coming years. Continued coordination between ZEVI, TII, local authorities, network operators and private sector delivery partners will be critical to ensuring that the network is delivered at pace.

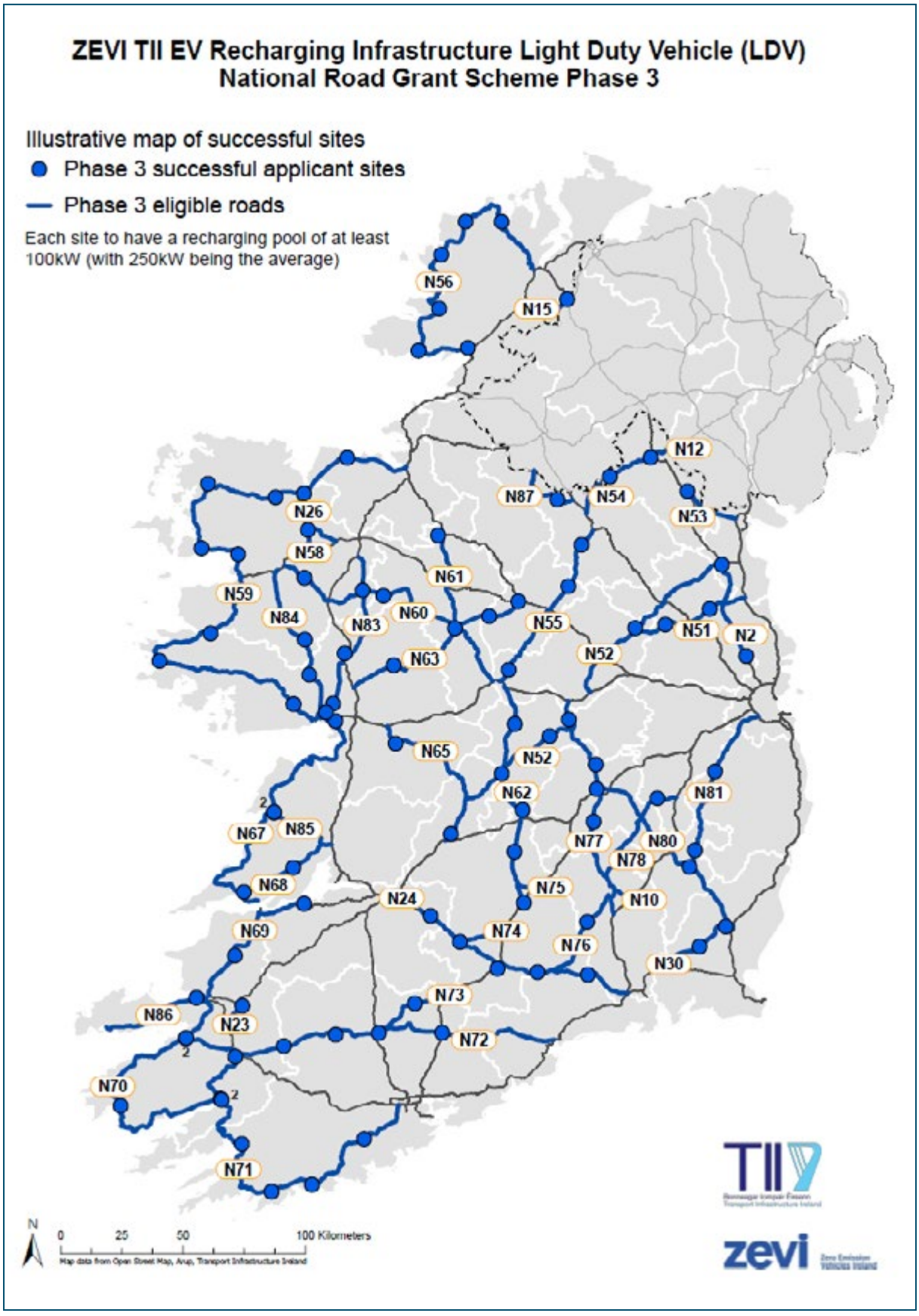


Figure 9. LDV3 Scheme Map

4.3 Ireland's EV Charging Network Plan

Ireland's EV infrastructure targets are aligned with the national ambition to achieve a 30% transition to EVs by 2030, as set out in the Climate Action Plan. By the end of 2030, the aim is to deliver 712,395kW of publicly accessible LDV EV charging infrastructure across the country.[23]

The total national target for all vehicle types is distributed across two key delivery plans that, when read together, form the EV Charging Network Plan. These are the National Road Network EV Charging Plan and the Regional and Local EV Charging Network Plan.

The allocation of national targets across en-route, destination and neighbourhood charging locations reflects the need to balance strategic coverage across high-traffic corridors and provide local charging access to residents and visitors.

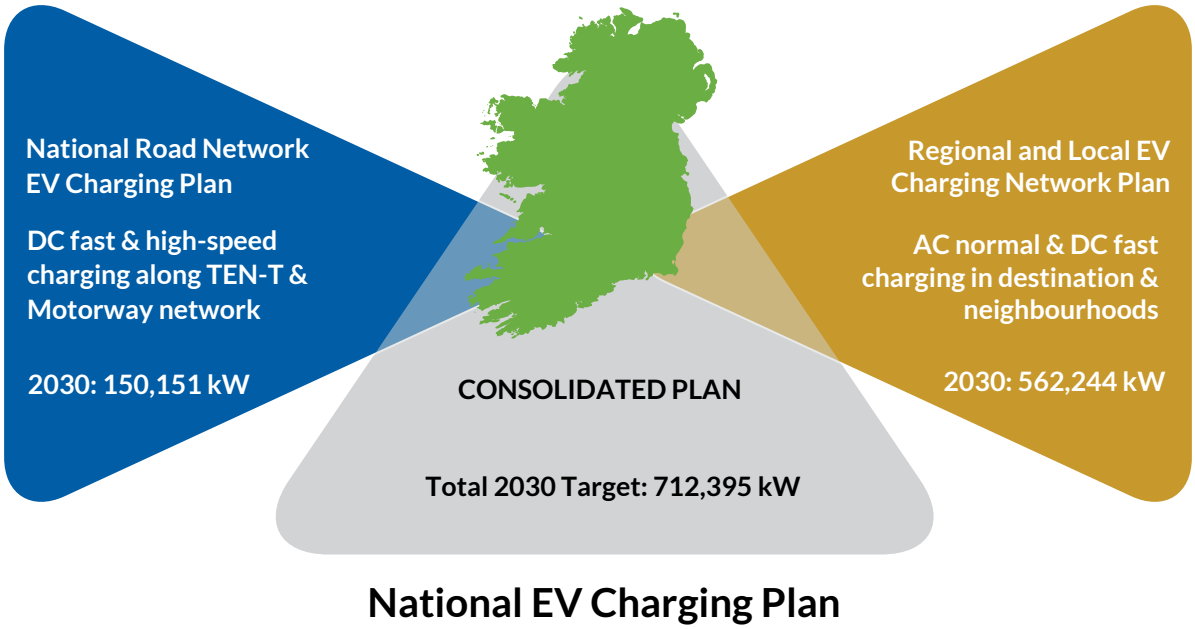


Figure 10. National EV Charging Network Plan

23 The current target of 712,395kW is based on AFIR requirements where 30% of Ireland's LDV fleet is fully electric (BEVs) by 2030. However, when 15% of the LDV fleet is made up of BEVs and an equivalent amount of charging is provided to be compliant with AFIR, this larger power output target will be reconsidered. Charging provision requirements will be reassessed based on user demand and data monitoring from use of the current chargers to pinpoint where more charging may be required to meet user demand and where current charging infrastructure suffices. Where 15% of the LDV fleet in Ireland is made up of BEVs and charging infrastructure is found to be sufficient, Ireland can apply for a derogation in respect to the AFIR requirements.

4.4 How Public EV Charging Infrastructure Targets Will Be Achieved

Over the coming years, several challenges will need to be tackled to meet the national targets for accessible public charging infrastructure by 2030. Significant progress has been made in rolling out charging infrastructure with early market support, particularly en-route charging. In other charging locations and geographies, deployment of public charging infrastructure continues to lag. Limited commercial viability disincentivises the private market from installing slower public charging options in residential areas, more remote destinations, and locations affected by seasonal peaks (e.g. tourism).

Other risks to commercial viability include the challenge of delivering infrastructure ahead of demand, which can impact both the financial sustainability and long-term viability of the network. There is a need to carefully balance early deployment, which is essential for building public confidence in transitioning to EVs, against the commercial realities of financing, operating, maintaining and expanding the network.

A purely market driven rollout model for public EV charging infrastructure has demonstrated signs of market failure. When left solely to commercial forces, the volume and distribution of charge points developed falls short of what is required to support national EV adoption goals. This under-provision arises from several well recognised structural challenges:

- **Positive externalities:**
  The broader societal and environmental benefits of EV charging infrastructure are not fully captured in private returns.
- **Network and coordination effects:**
  The value of the charging network increases as more users and charge points come online, but this benefit is not immediately realised by first movers.
- **Risk and demand uncertainty:**
  Early-stage investors face significant uncertainty regarding utilisation rates, revenue stability, and long-term market evolution.

These issues are particularly pronounced in the early years of the transition when EV penetration remains low. Limited EV uptake constrains the commercial viability of CPOs, leading to fewer charge points being installed. At the same time, the availability and visibility of public charging infrastructure strongly influence consumer decisions to purchase an EV. To support the expansion of the public charging network during early adoption, there is a need to transition from a market-driven approach to a planned approach, and thereafter to a demand led approach.

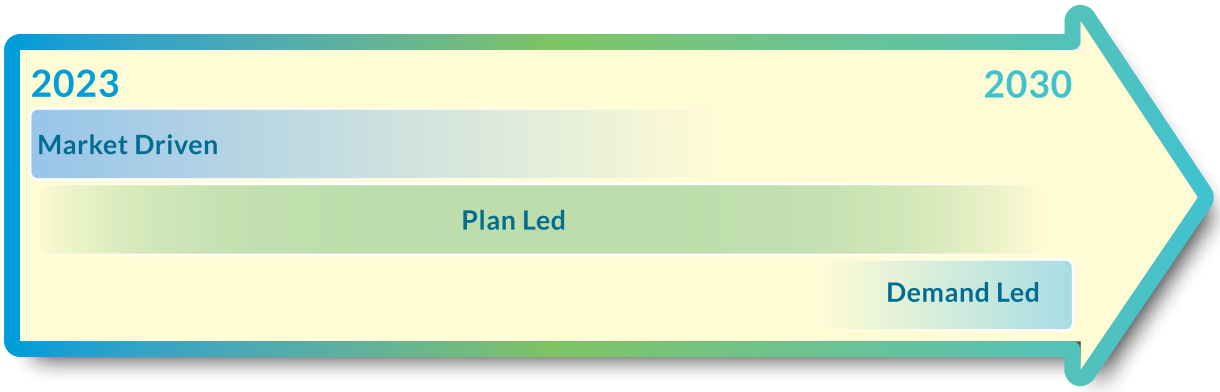


Figure 11. Moving from a market-driven approach to a planned approach

To sustainably respond to public charging demands over the coming period, infrastructure will need to remain balanced with both charging demand and the rapidly changing technological landscape. TII will continue to be the primary delivery arm for en-route charging, driving the delivery of the National Road Network EV Charging Plan. Local authorities will spearhead the expansion of destination and neighbourhood charging, in line with the Regional and Local EV Charging Network Plan.

Crossover in responsibilities is expected where location types overlap – such as where a destination site is on a national road. Across all charging location types, the private sector will continue to play a critical role as most of the charging infrastructure will be located on private sites. Coordination between local authorities and TII will continue to identify gaps in meeting user needs where infrastructure delivery is needed but the private sector cannot fulfil the requirement, ensuring we are well placed to meet growing public EV recharging demand.

4.5 Implementation of the Regional and Local EV Charging Network Plan

Local authorities have developed, or are currently developing, strategies to inform the rollout of neighbourhood and destination charging by identifying demand and delivering EV infrastructure to meet user needs across their areas. Local authorities will engage with the private sector and other public sector bodies to coordinate the delivery of EV infrastructure in their counties to meet user needs at destination and neighbourhood locations. The rest of this section discusses the Exchequer funded regional and local schemes over the course of the strategy.

4.5.1 Shared Island Sports Club Scheme

The Shared Island Sports Club EV Charging Scheme is a nationwide scheme which provides funding to install a network of publicly accessible fast (50–100kW) chargers in communities through their local sports clubs. This grant, with funding provided via the government's Shared Island Fund, operates on an all-island basis and provides full grant funding to eligible sports clubs and centres to defray the cost of installing publicly accessible EV charge points.

The €15m Scheme is funded through the Government of Ireland's Shared Island Initiative and ZEVI infrastructure funding. It covers the full cost of installing EV charge points at sports club facilities affiliated to recognised national governing bodies. In total, 225 clubs – 46 from across Northern Ireland and 179 from Ireland – are now eligible to apply for installation of chargers and associated infrastructure. Approved applications by clubs can draw down 100% funding for the installation of EV charging, subject to reaching an operating agreement with a CPO from the approved panel. This will see an important ramping up of public EV charging in local communities across the island and offer the potential for clubs to generate income from these installations. The bulk of installations under this scheme will be completed in 2027.

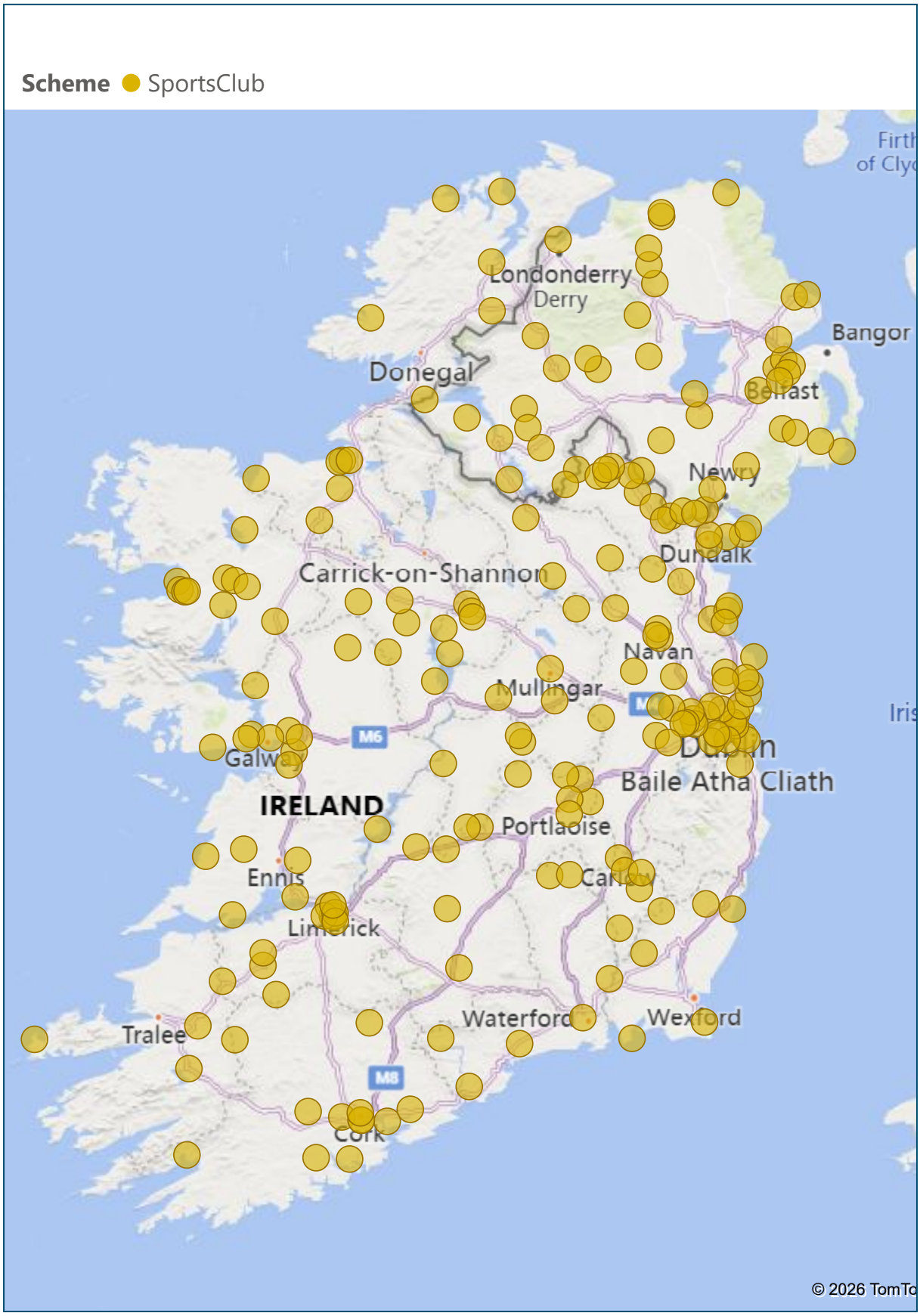


Figure 12. Shared Island Sports Club Scheme charging infrastructure locations

4.5.2 Neighbourhood Charging Solutions

For households without access to home charging, neighbourhood charging provides residents with access to charge points within their local area. Slower AC charging units are generally favoured because they provide slow, off-peak charging opportunities near residents' homes when the vehicle is not in use overnight. These charging points can be provided for public use at on-street parking bays or they can be grouped as a hub where on-street parking is limited.

Where residents do not have access to off-street parking but have adjacent on-street parking, cross-pavement charging may become a viable option. Cross-pavement charging consists of a channel-type device which is installed in a footpath or pavement and allows a private charging cable to be safely laid from a user's home across a footpath to the vehicle. At present, cross-pavement charging is not regulated in Ireland and there is no consenting or permitting regime in place. However, the electricity regulation elements of this are being formalised through legislation to amend the private wires legislation, and a working group has been established to regulate cross-pavement charging solutions, and to develop an appropriate consenting process in the context of road opening and planning legislation, to allow this to happen.



Case Study

Experience in Northern Ireland and England demonstrates that cross-pavement EV charging solutions can play a targeted role in expanding equitable access to home charging for households without off-street parking, particularly in dense urban and suburban areas.



Figure 13. Example of a cross-pavement EV charging solution

Milton Keynes, England

In England, a number of local authorities have piloted cross pavement EV charging solutions as part of wider efforts to address access to home charging in areas without private driveways. Milton Keynes City Council has progressed a small scale pilot and is now expanding the scheme to up to one hundred residents.

Under this model, residents pay an initial survey fee and, subject to approval, receive permission from the local authority to install a cable channel in the public footway using a council approved contractor. Costs associated with the installation are met by the resident, while the local authority retains responsibility for maintenance and liability relating to the cable channel itself, with the resident remaining responsible for the charge point and charging cable.

Following an initial three year period, permission may be renewed annually for a fee covering insurance, inspections, maintenance and administration. Where permission is not renewed, the local authority may remove the channel and reinstate the footway, ensuring long term control of the public asset.

Case Study

Belfast, Northern Ireland:
DFL Pilot

Northern Ireland is steadily adapting to the increasing popularity of EVs by expanding public charging infrastructure and encouraging the use of home charging solutions.

For residents living in suburban and rural areas, installing a home charging station is a convenient and cost-effective option. However, for residents in more urban areas such as central Belfast, home charging may be less feasible as many homes lack off-street parking.

In October 2025, the first cross pavement EV charging solution in Northern Ireland was installed as part of a six-month pilot scheme announced by the Department for Infrastructure (DfI). The pilot is designed to assess how cross-pavement cable channel solutions can support residential EV charging for households without off street parking, while maintaining footpath safety and accessibility.

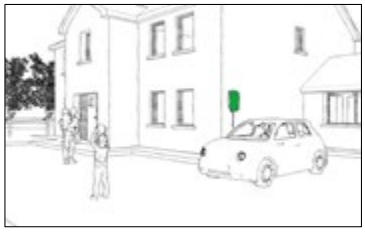
Under the pilot, DfI has adopted a facilitative approach whereby a property owner may seek permission to install a cable channel within the public footway through the existing Street Works Licence (SWL) process. Applicants are required to submit an initial application to the DfI Transportation Decarbonisation Unit for assessment of site suitability.

Where deemed acceptable, the applicant may proceed with an SWL application, with all associated fees, procurement, installation and contractor costs borne by the resident. Responsibility for compliance, installation quality and ongoing operation rests with the applicant, providing a clear allocation of roles and liabilities within the public realm.



Figure 14. Example of a cross-pavement EV charging solution

Where EV drivers cannot avail of private home charging or cross-pavement charging, two approaches to public charging provision can satisfy user charging needs. The first and preferred approach is to provide charging hubs in convenient locations with multiple AC chargers or a combination of AC and DC chargers. Where hubs are not feasible, on-street AC charging can also be considered to meet neighbourhood charging needs. The affordability of neighbourhood charging options is an important consideration for ZEVI in the context of a just transition.



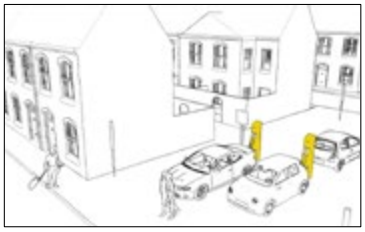
Off-street home charging

Users have access to off-street parking and can install their own charging points, therefore don't need street charging.



On-street channel charging and / or on-street pedestal

Users have access to on-street parking adjacent to their homes and can therefore install channel charging to facilitate home charging. Permission from the local authority will be required, i.e. a road opening licence and confirmation of public liability and maintenance responsibilities. Alternatively, where channel charging is not permitted, on-street public charging options can be considered.



Off-street local hub

Where access to private charging options is not available (either off-street or via channel charging), charging may be provided at a suitable off-street location nearby.

Colour Key

Home charging (private)

AC charging (public)

Figure 15. Charging location hierarchy

4.5.3 Destination Charging

Destination charging aims to provide convenient opportunities for EV users to recharge their vehicles while they are parked and engaged in other activities, such as shopping, dining or visiting attractions. Destination charging complements home, neighbourhood and en-route charging by filling gaps in the charging network, particularly at public and privately-owned sites like town car parks, shopping centres, retail parks or hotels.

When planning for destination charging, multiple user needs should be considered, given destination locations are typically located near other facilities or areas serving other needs (e.g., working, residential and en-route). Sites which meet multiple user needs see an overall increase in utilisation at that site, while mitigating the impact on the grid and the environment.

It is important to note that not all settlements will require publicly accessible EV charging infrastructure. In some towns and villages, where residents have reliable access to home charging and there is no neighbourhood demand, destination chargers may not be necessary. Day-to-day needs can be met through home and/or workplace charging, while longer journeys will be supported by en-route charging.

The same settlement may require infrastructure if it is located on a national road or experiences seasonal tourism, as this creates demand from visitors and through traffic. Figure 12, from the Regional and Local EV Charging Network Plan, presents examples of settlement typologies and indicative infrastructure needs. Local authorities, through their strategies and implementation plans, will ultimately determine the appropriate level of infrastructure required.

Dublin local authorities and Limerick City and County Council are in the process of delivering infrastructure at destination locations, while the other local authorities are currently finalising their strategies and implementation plans to deliver significant neighbourhood and destination charging solutions across their counties, programmed to commence in 2027.



Figure 16. Indicative charging configurations at various location types

Case Study

Roscommon Pilot

The Roscommon EV Charging Pilot demonstrates how moving from a market-driven to a planned approach in consideration of both demand and user needs can deliver an innovative and commercially-viable solution. Costs, environmental impacts, and grid impact can be mitigated by designing EV charging infrastructure around multiple user needs. The site serves most user needs with destination, neighbourhood, en-route and workplace charging all available at this location.

By utilising a behind-the-meter solution, the project capitalises on existing low electricity tariffs and avoids the need for a costly new network connection. This approach delivers substantial financial benefits, reducing capital expenditure by approximately €50–60,000 and reduces yearly standing/capacity charges by €7-10,000 that would otherwise be incurred with a new supply. The pilot also enables access to favourable nighttime electricity rates, a crucial enabler for residents without driveways and one of the key barriers to widespread EV adoption in neighbourhood settings.

As local authorities prepare for significant EV infrastructure roll-out over the next five years and with upcoming EPBD requirements mandating installation on existing sites, the Roscommon initiative provides a valuable example of how infrastructure can be delivered to meet multiple user needs. The model is inherently scalable, as additional chargers can be installed as demand increased, drawing on spare capacity and the potential integration of renewable energy to reduce pressure on the national grid.



Figure 17. Roscommon Pilot

4.6 Supporting the Growth of the EV Charging Network

The expansion of the EV charging network must be planned in alignment with both national targets under AFIR and demand due to user needs with due consideration of the commercial viability of existing and future infrastructure. Careful consideration of charger locations, deployment timelines and projected utilisation is essential to ensure a sustainable and equitable roll-out.

Local authority project life cycles, site selection, and contract arrangements for publicly owned sites should be clearly defined, while tailored grant mechanisms could support charging infrastructure on private sites. Site selection and implementation by local authorities should align with both the objectives of the regional and local plan and the fundamental principles of this strategy, particularly Principles 1, 2 and 5 which focus on ensuring accessibility, inclusivity and integration with wider mobility goals.

Further supporting the roll-out of destination charging, the 2024 EPBD has introduced requirements for charging points based on the number of parking spaces at non-residential buildings. This will support charge point availability at both new and existing buildings in the coming years.

4.6.1 Timeline and Phasing

ZEVI will continue to promote a phased approach to developing infrastructure. This phased approach balances the need for sufficiently expansive charging infrastructure to meet user needs and national targets while avoiding potential oversupply and stranded assets which could undermine the commercial viability of the network. This approach is also cognisant of the ever-increasing battery capacities and hence real-world ranges in newer EVs. This approach will involve three phases.

Phase 1 (2025–2027) is focused on the delivery of en-route, high-powered charging infrastructure, alongside some early pilot destination projects. En-route charging will be delivered along the National Road Network through a series of three LDV schemes launched by ZEVI and TII. In Phase 1, an additional 90,000kW of charging infrastructure will be delivered – a 60% increase on the current baseline of 150,000kW as of September 2025.

Destination charging will include several key initiatives:

- Shared Island Sports Scheme
- Local Authority Destination Charging:
  - Dublin Local Authorities
  - Limerick City and County Destination Scheme
  - Local authority pilot schemes

The local authority pilot schemes are designed to be reflective of the charging infrastructure that will be rolled out across the local authorities. These pilots incorporate solutions where there are barriers to installation, such as grid capacity.



Figure 18. All Exchequer-Funded Schemes' Charge Pool Locations

	Sum of total available output	Scheme
●	25,520kW	LDV 1
●	20,040kW	LDV 2
●	25,520kW	LDV 3
●	8,950kW	Shared Ireland Sports Club
●	1,200kW	Limerick City and County Council
●	8,200kW	Dublin Local Authorities
●	4,739kW	ZEVI Local Authority Pilots
●	94,169kW	Overall total available output

Phase 2 (2027–2030) will be delivered through the local authorities. It will most likely be split between neighbourhood charging, for those without driveways and destination charging.

Destination charging

Destination charging provision will focus on sites serving multiple user needs and locations of strategic regional importance, such as key tourism destinations. Total demand will have been identified in the local authority strategies, with infrastructure delivery primarily led by local authorities on local authority sites, as well as publicly owned sites where agreed. Local Authorities Strategies', along with identifying settlement destination and neighbourhood need, will also identify areas with significant seasonal variance and subsequent infrastructure will be provided to address this additional need.

Local authorities will also engage with the owners of private sites such as hotels, retail centres, shopping centres and tourist locations to accelerate delivery on these sites where there is an identified user need. As EV adoption grows and demand increases, the private sector is expected to play a significant role by delivering charging infrastructure at destination locations where commercial opportunities are strong.

Neighbourhood Charging

Neighbourhood need will be addressed through LA EV Infrastructure Strategies and infrastructure planning. For the majority of users, *home charging will be the preferred option* as it provides the cheapest and most convenient charging solution at their home. For a small minority a solution will be needed outside of the home. The hierarchy of neighbourhood charging will be used to determine the user need and optimum solution to meet this user group need. In time other innovative solutions may address this issue so solutions in this space will be closely monitored and adapted where suitable

Where feasible, cross-pavement charging is the preferred approach to neighbourhood charging subject to the amendment of the required legislation and local authority consent. Where this is not feasible, neighbourhood charging options, through local charging hubs or on-street AC charging will be considered.

Phase 3 (2030 and beyond) will focus on *scaling up sites* where demand justifies this and installing infrastructure in locations where barriers to installation were identified in Phase 1. This phase will split delivery between destination and neighbourhood schemes and will include the continued rollout of the cross-pavement solution for neighbourhood charging.

The approach will transition to demand-led delivery, informed by:

- User needs and demand/AFIR targets
- EV adoption rates
- Pace of private sector delivery
- Technology advancements such as battery technology improvements in new EVs

Phases 2 and 3 are largely indicative at this point. Local authority strategies and implementation plans initially drafted in Phase 1 may change the approach taken in Phases 2 and 3 based on the monitoring of localised charge point utilisation and the output of the mid-term review. Other factors, such as the rate of EV adoption and private sector delivery, can influence the strategic and planned approach at national and local levels. Advances in battery technology with increased range could further minimise the amount of EV infrastructure needed to meet user needs. Data provided on the utility rate of existing EV charging infrastructure will be key to identify locations where demand outstrips supply.

Monitoring data from Phase 1 and Phase 2 sites will provide insight into charge point utilisation, ensuring that additional infrastructure is deployed where it is most needed. Implementation will follow an incremental approach, prioritising flexibility and responsiveness to evolving demand.



Figure 19. **Planned infrastructure targets and delivery**

4.6.2 Mid-Term Review

2026 will be a record year for the delivery of exchequer funded infrastructure in Ireland with the expected completion of the various schemes detailed above. In 2027, the Department of Transport will initiate a mid-term review of this Strategy. This mid-term review will utilise data provided by CPOs to the TII data office to examine the performance of each of the exchequer funded schemes completed to-date. The review will also examine the overall performance of the market, undertake a geographic gap analysis of underserved locations, assess the technological improvements in EVs, particularly in terms of battery and hence range and measure compliance with the Universal Design Guidelines. The output of this review will inform the direction and quantum of future exchequer funded schemes and assess the status of demand-led growth.



Chapter 5 /

HDV Charging Infrastructure



5. HDV Charging Infrastructure

Decarbonising the HDV segment presents a complex and urgent challenge given the contribution of the freight sector to GHG emissions. A core objective of this strategy is to support the initial stages of HDV electrification through the development of a coordinated national approach to delivering HDV recharging infrastructure.

This chapter outlines the national HDV charging infrastructure targets, reviews the current status of infrastructure deployment and highlights the strategic importance of expanding Ireland's EV charging network, with a particular focus on publicly accessible, enroute charging solutions for HDVs. This will include safe and secure parking areas which are intended to improve resting areas for drivers and to protect them from violence and cargo crime. When discussing HDVs, this strategy is referring specifically to buses and heavy goods vehicles, along with the supporting recharging infrastructure required to serve both vehicle categories.

The electrification of bus fleets is a critical component of the wider transition to low carbon heavy transport. The National Transport Authority (NTA) is responsible for the procurement of Public Service Obligation (PSO) fleet vehicles and for providing the associated depot-based charging infrastructure. For privately operated zero emission buses, grant funding is available through the ZEHDV and ZEHDVI schemes.

5.1 Ireland's HDV Electrification and Charging Infrastructure Targets

5.1.1 Ireland's HDV Electrification Targets

Within the transport sector, HDVs are a key focus area for emission reductions due to their significant and growing contribution to Ireland's transport emissions. HDVs comprise 2% of Ireland's vehicle fleet but are responsible for 29% of transport emissions.[24] HDVs are an essential pillar of Ireland's economy and so it is critical that a pathway is developed to enable the decarbonisation of the HDV sector, while not impacting on their contribution to economic growth and development.

24 https://www.climatecouncil.ie/councilpublications/annualreviewandreport/AR2024-Transport-final.pdf

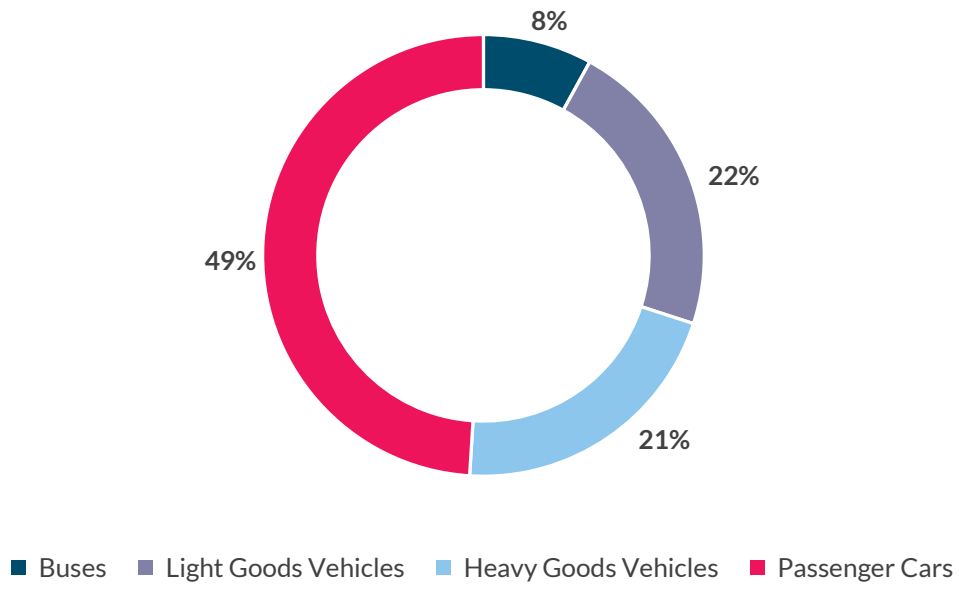


Figure 20. Split of Vehicle Emissions in Ireland (2022)

The Road Haulage Strategy 2022–2031 identifies electrification as a preferred technology for decarbonising the HDV fleet,[25] while the EU CO_2 emission performance regulation requires a 90% reduction in CO_2 emissions from HDVs by 2040.

In 2022, Ireland became a signatory of the Global MOU on Zero Emission Medium and Heavy-Duty Vehicles. The MOU agreed to target:

- 30% of new sales to be zero emission by 2030
- 100% of new sales to be zero emission by 2040

While emissions from passenger transport are projected to decline as electrification progresses, freight activity is expected to increase over time and therefore without targeted interventions, emissions from HDVs and HGVs are therefore projected to account for 52% of total road transport emissions by 2030 and rise to 87% by 2050. This shift reflects not only rising freight demand but also the slower pace of decarbonisation in the HDV segment compared to passenger vehicles. A rapid transition to battery electric HDVs, supported by suitable EV charging infrastructure, is an essential part of countering this trend and achieving national climate targets. Analysis of Irish road freight decarbonisation suggests that by 2030, EVs should make up about 10% of light trucks and 4% of heavy trucks in the overall vehicle fleet.[26]

25 https://assets.gov.ie/static/documents/irelands-road-haulage-strategy-20222031-9750150b-53f9-4ce5-a5c0-592ea8a9f1ec.pdf

26 https://www.nature.com/articles/s41598-024-52682-4

5.1.2 Mandated HDV Charging Infrastructure Targets

To support the electrification of HDVs, AFIR specifies mandatory distance-based requirements for high-powered HDV charging pools along the TEN-T network, including both the core and comprehensive networks. These charging pools must meet escalating total power outputs and minimum per-point power capacities, ensuring suitability for HDV needs.

Under AFIR as currently prescribed, by the end of 2027, Ireland would need to provide dedicated HDV charging pools in each direction of travel along 50% of the comprehensive TEN-T network. Along the core network, each charging pool should offer a power output of at least 2,800kW, with a minimum of two charging points providing an individual power output of at least 350kW. Along the comprehensive network, power outputs of at least 1,400kW would be required at each charging pool, with at least one charging point providing a minimum individual power output of 350kW.

The power output at these charging pools would then be increased by the end of 2030. Along the core network, charging pools would be required at least every 60km in each direction of travel and these charging pools should have a total power output of at least 3,600kW. Along the comprehensive network, the maximum distance between charging pools increases to 100km, with a power output of at least 1,500kW at each.

Urban nodes (meaning Dublin, Cork, Galway and Limerick) should also achieve aggregated high-power capacity (minimum of 1,800kW with a minimum of 150kW at each station) by 2030. Safe and secure parking areas must offer at least two HDV charging stations by 2027 and four by 2030.

On low-traffic routes, Ireland can apply for a derogation in terms of the spacing of charging pools and power levels. When fewer than 2000 HDVs transit daily on Ten-T routes, Member States may allow a single recharging pool to serve both directions if deploying separate infrastructure is not justified economically. Member States may also reduce the total power output of recharging pools for HDVs by up to 50% if the pool serves only one travel direction and meets other traffic requirements.

The graphic (Figure 20) illustrates the sections of Ten-T road networks which are currently forecast to be above or below the 2000 HDV transits threshold in 2025 with several sections on the M6, M7, M8, M11 and M18 currently under the threshold.



Figure 21. TEN-T Roads in Ireland with 2000 or more daily HDV transits

5.2 Current State of Play and Trends

HDVs provide both a complex challenge and an untapped opportunity to reduce transport-related carbon emissions through electrification of the fleet. In relation to HGVs specifically, in 2024 there were over 44,500 commercial goods vehicles (greater than 3.5 tonnes) with over 24,300 vehicles operating on haulage licences. Of the 3,800 road haulage operators licensed in Ireland, 65% serve international routes and 35% operate nationally.

At the same time, the operational readiness of the HDV segment to transition to electrification remains limited. Battery electric HDVs currently represent approximately 2% of Ireland's national HDV fleet and commercial uptake has been hampered by high upfront vehicle costs, limited vehicle availability, range and payload constraints and the absence of an adequate public charging infrastructure.

Description	No. Registered	CAP Target 2030
N2 3,500kg–12,500kg	115	3,500
N3 12,500kg +	50	
EV Buses in PSO	546	1,500

Table 7. National Vehicle and Driver File (NVDF) statistics of eHDVs registered in ROI (End 2025)

This presents a "chicken-and-egg" situation in which transport operators are hesitant to invest in battery electric HDVs without visible charging options and CPOs are unwilling to install infrastructure in the absence of sufficient charging demand from HDVs and the sector generally.

Charging infrastructure for HDVs is typically separate from that used by LDVs, reflecting the fundamentally different operational needs, vehicle sizes, and user groups. Just as trucks and cars do not use the same fuel pump at a petrol station, HDVs require dedicated infrastructure in terms of layout, space, power capacity, access and amenities, often at logistics hubs or along freight corridors.

Ireland currently lacks any publicly accessible, dedicated, en-route charging stations capable of accommodating HDVs. Existing, LDV focused public chargers are constrained in several ways such as power output and site design, both of which limit the usability of current sites for HDVs.

The ZEHDV Infrastructure Grant Scheme, administered by TII on behalf of ZEVI, has begun to support depot-based private infrastructure for freight and bus operators as well as publicly accessible en-route solutions. However, to date the funding requests have been solely for depot-based infrastructure.

5.2.1 HDV Electrification Pathway Working Group

To support the electrification of the HDV fleet in Ireland, the HDV Electrification Pathway Working Group was established by ZEVI in 2025. The Working Group includes representatives from groups including the road transport and logistics sector, charge point operators, vehicle manufacturers, motor industry representatives, academia and public policy officials.

The purpose of the Group is to:

- Ensure strong industry input into the development of a HDV Electrification Pathway;
- Share knowledge and learnings with a view to progressing HDV electrification;
- Investigate barriers to the uptake of zero emission HDVs;
- Establish the strengths and opportunities for the roll out of HDV infrastructure; and
- Identify domestic and international case studies that provide opportunities for further knowledge sharing.

The Working Group was tasked with producing a pathway report for the Minister for Transport. The SWOT analysis of electrification in Ireland is taken from the Report of the Working Group. The objective of the Report, which was published in Q1 2026, is to support the electrification of the HDV fleet in Ireland and offer practical solutions and a roadmap towards 2040.



Strengths

Cost and Efficiency

- Lower maintenance and operating costs c. 30% of ICE equivalent
- Most energy efficient solution for HDVs

Environmental benefits

- Significant carbon footprint reduction
- Improved air quality and noise reduction

Strategic Alignment

- Supports CAP targets and EU Green Deal objectives
- Enhances corporate ESG/CSR performance and reputation

Geographical Advantages

- Ireland's size and relative short distances suits EV ranges

Energy and Technology

- Potential for renewable energy integration for sustainable charging
- Opportunities for V2G and energy recovery

Operational Benefits

- Suitable for many operators, especially predictable routes
- Positive impact on driver / passenger welfare

Weaknesses

High Upfront Costs

- Vehicle and charging infrastructure require significant capital investment

Infrastructure Gaps

- Limited public charging infrastructure
- Long planning and delivery timelines for depot upgrades

Vehicle Availability

- Limited vehicle availability and long lead times for delivery

Knowledge Gaps

- Lack of operator awareness and EV operational experience.

Regulatory and Planning

- Road weight restrictions and infrastructure planning challenges

Supports

- Insufficient grant support for small to medium operators

Opportunities

Regulatory Compliance and Image

- Improved positive image and compliance advantages /reputation
- Entry in CAZs

Innovation and Technology

- Adoption of V2G capabilities
- Collaborative pilot programmes and technology trials
- Utilisation of chargers – charge sharing etc

Market Positioning

- Ability to shape industry narrative and standards
- Supply chain – customer demand, especially within the ecommerce sector

Education and Workforce Development

- Public education on benefits and operations

Threats

Financial Risk

- Transition may not be cost effective without grants
- Uncertain residual values of electric HDVs

Infrastructure challenges

- Grid stability and energy mix concerns
- Grid capacity - depot
- High costs and slow pace or public charging rollout

Market and Technology Risks

- Rapid technology changes creating obsolescence risks

External factors

- Price volatility of energy and charging
- Mineral supply chain and geopolitical constraints
- GDPR and data management issues for telematics

Small Business Impact

- High upfront costs disproportionately affect SMEs

Table 8. SWOT Analysis of HDV Electrification in Ireland[27]

27 https://www.iea.org/reports/global-ev-outlook-2025/trends-in-heavy-duty-electric-vehicles?utm_source=chatgpt.com

5.3 Meeting User Charging Needs

Fleet operators will typically aim to minimise vehicle downtime and optimise operating costs, and accordingly the preference for most fleet operators is to use overnight depot charging as the primary charging mode for HDVs, enabling vehicles to start their daily operations with a fully charged battery.

However, the ability to realise this preference is not uniform across the sector. Grid capacity constraints, lengthy connection lead-in times and the high upfront cost of installing high-powered infrastructure apply equally to depot environments as they do to publicly accessible charging sites. For some operators, particularly SMEs and those located in areas with constrained network capacity, depot charging may only be partially achievable in the short to medium term, or may require a blended approach that combines depot charging with publicly accessible en-route or opportunity charging.

Opportunity charging (when HDV drivers take time to top up en-route at public charging hubs) is therefore expected to play a more significant complementary role than initially anticipated, taking place during drivers' mandated breaks, on longer journeys, where the origin may be in a different country, and where depot charging cannot meet the full operational demand of a fleet due to grid or site constraints.

HDV charge points should be sized to fit all HDV types, with bays large enough for users to enter and exit vehicles easily. Designating certain charging points for HDVs only will help meet the specific needs of HDV drivers. User needs for different types of HDV drivers are detailed below and reflect the diverse range of HDV driving experiences in Ireland.

5.3.1 Depot Charging

Depot charging is the preferred mode for Ireland's HDV electrification. but cannot be treated as a default solution available to all operators. Realising this preference at scale will depend on tackling the same structural issues that affect the wider public charging network, most notably grid capacity, connection timelines and the cost of network reinforcement.

Where depot charging is feasible, charging management software will be essential for depot-dependent fleets to manage overnight charging and support grid stability. Cloud-based charging management platforms can monitor and manage daily operations efficiently, helping to ensure that HDVs are sufficiently charged for their scheduled routes within the available connection capacity.

Where depot charging is fully achievable, it offers several advantages:

It supports a more efficient transition by utilising private charging environments, which can help build momentum, create market demand for electric HDVs and strengthen the business case for expanding public charging networks over time.

It can reduce operational costs – most notably energy costs and improve the total cost of ownership, making electric HDVs more competitive against fossil fuel comparators as the unit cost per kWh at private depots is expected to be lower than current commercial rates at publicly available infrastructure.

Overnight depot charging provides operators with the convenience of starting each day with a fully or sufficiently charged vehicle.

However, the experience of the sector to date indicates that these advantages cannot be assumed for every operator. Grid capacity availability, the cost and timeline of new or upgraded connections, site constraints and the suitability of existing depots for high-powered charging will all influence whether, and to what extent, an operator can rely on depot charging. For operators where depot charging is not viable in the short term, a combination of publicly accessible en-route charging, opportunity charging at logistics hubs and shared depot models may be required to support fleet electrification.

The approach has parallels with home charging for passenger vehicles, which has helped accelerate the adoption of EVs on Irish roads by providing lower cost, convenient and reliable access to charging. As with home charging, however, a meaningful share of HDV operators will not have access to this option and will require alternative, publicly accessible solutions to be available in tandem.



Support for Depot Charging: ZEHDV-I Scheme

The Zero-Emission Heavy Duty Infrastructure Grant Scheme (ZEHDV-I) opened in October 2024. The Scheme awards grants to assist companies and enterprises who wish to install their own depot charging points and facilitates charging around, but not limited to, logistics hubs and in urban nodes. The ZEHDV-I Grant Scheme is funded by the Department of Transport and administered by Transport Infrastructure Ireland.

5.3.2 En-route Charging on the National Road Network

Ireland's transition to zero-emission freight transport critically depends on the development of a comprehensive, high-powered HDV public charging infrastructure, especially for battery electric HDVs. Publicly accessible en-route charging infrastructure for HDVs remains to be developed , with Ireland currently having no dedicated HDV charging hubs. This risks delays in freight sector decarbonisation and the achievement of overall national climate targets.

Strategically located charging hubs along key transport corridors are a key enabler and will facilitate HDV drivers to top up their vehicle mid-route. These hubs will be essential for Ireland's international freight links via Rosslare, Dublin Port, Belfast and key motorway junctions. These hubs should be vendor neutral and accessible to electric trucks and buses and ideally be paired with other amenities such as bathrooms and food stops to enable drivers to take their mandated rest break while charging their vehicle. ZEVI is currently working to assess and cost options for the deployment of AFIR compliant HDV charging hubs on a number of motorway routes in Ireland.



Case Studies: *En-Route Charging*

Daimler/Traton/Volvo Joint Venture

Charging hub along a transport corridor

Across Europe, dedicated HDV charging hubs are showing how high-power infrastructure can help accelerate the shift to zero-emission freight. These hubs are typically co-located with existing truck parking areas and combine rapid charging with secure, well-serviced rest facilities for drivers.

Recent examples include a series of public HDV hubs developed by Milence, a private operator established by major truck manufacturers. Notable deployments include large hubs in the Netherlands, France, and at the Port of Antwerp-Bruges, where high-capacity CCS chargers (up to 400kW per bay) support quick turnaround times for long-haul operators. The hubs are fully interoperable, with multiple e-Mobility Service Providers integrated and typical tariffs around €0.40/kWh (ex. VAT).

Common design features, such as secure access, lighting and CCTV, sanitary facilities, Wi-Fi, and basic food and drink options, show how charging dwell time can be aligned with required driver rest periods.

Milence's published plans to deploy 284 charge points across 71 locations in 10 EU countries by 2027, provide a useful indication of how corridor-based HDV charging networks may develop across Europe.

Key Takeaway:

Corridor based hubs will be essential for Ireland's international freight links via Rosslare, Dublin Port and key motorway junctions.

Case Studies: *En-Route Charging*

ABB E-Mobility and Man, Germany

Megawatt charging system demonstration on eTrucks

In 2024, a major step toward high-power charging for HDVs was demonstrated through joint testing by ABB E-mobility and MAN Truck & Bus. The Megawatt Charging System (MCS) prototype delivered more than 700kW and 1,000A to an eTruck, marking the first public instance of an HDV being charged at this power level. During the test in Munich, the battery was charged from 10% to 80% in approximately 30 minutes, enabling an additional 300–400km of range within a standard driver rest break.

The emerging MCS standard is being engineered to support charging capacities of up to 3.75MW (3,000A) which is beyond the capability of today's CCS chargers, which currently peak at 400kW. This demonstration provides an early indication of how megawatt-scale charging will reduce dwell times and support long-haul zero-emission freight as the technology moves toward commercial deployment.

Key Takeaway:

MCS will be critical for long haul routes and should be integrated into future charging infrastructure planning for Ireland's ports and motorways.

How Public EV Charging Targets Will Be Achieved

Initial adopters are likely to be businesses with journeys whose charging needs will be satisfied by depot charging and who may not need to rely heavily on public charging infrastructure. However, dedicated HDV public charging infrastructure will be necessary to enable broader electrification for HDVs.

The electrification of Ireland's HDV sector is both a significant challenge and a unique opportunity. Despite the myriad benefits, there are significant barriers to the electrification of the HDV sector such as high upfront costs, limited grid infrastructure and capacity, uncertain future utilisation metrics and on-going OPEX costs. Electrification will not happen in isolation. It requires a whole-system approach that aligns vehicle technology, charging infrastructure, energy supply, regulation and workforce readiness.

While Ireland does not have a transiting population of HDVs, it is nonetheless expected that the commercial viability of public HDV charging will be strongest at high throughput hubs on the National Road and TEN-T networks, where higher demand and fleet waypoints can support strong, economically viable levels of utilisation.

The economics of high-power HDV charging are characterised by substantial upfront investment in grid capacity, electrical equipment including chargers and site development and acquisition costs, with long asset lives and revenues that depend on sustained energy throughput. Low utilisation in the early stages of market development will therefore result in high levelised costs per unit of energy delivered and extended payback periods thus limiting private investment appetite.

International evidence highlights the importance of utilisation in improving commercial viability. Analysis by the International Energy Agency indicates that increasing the utilisation rate of electric truck chargers from approximately 5% to 30% can reduce the levelised infrastructure cost per kilowatt hour by around 80% and can roughly halve the overall fuel cost per kilometre for battery electric HDVs.[28]

28 https://www.iea.org/reports/global-ev-outlook-2025/trends-in-heavy-duty-electric-vehicles

Current policy direction supports a transition towards improved utilisation and demand certainty, with work ongoing to provide a framework for coordinated rollout with Government support. Nonetheless, structural challenges remain, including Ireland's relatively high electricity costs, which contribute to elevated public charging prices and may dampen early uptake of electric HDVs. Over time, increasing electrification targets are expected to increase utilisation levels, improve cost efficiency, and reduce investment risk, supporting the integration of public HDV charging into Ireland's wider national EV infrastructure and freight decarbonisation objectives.

ZEVI has the following strategic ambitions for the 2026–28 period for the HDV sector, focusing on the electrification of the fleet:

- **Support Private Sector-Led Initiatives with targeted grants** as the preferred deployment model. Targeted grants offer the fastest rollout and greatest flexibility, while retaining public oversight through competitive tendering and performance requirements.
- **Implement phased rollout of public charging infrastructure aligned with AFIR requirements.**
- **Define robust contractual KPIs for grant funding** (≥98% charger uptime, ≥95% successful charging sessions, minimum share of renewable energy, transparent data sharing, customer satisfaction metrics, etc) to promote reliability and value-for-money for the exchequer.
- **Strengthen national coordination** between DoT, ZEVI, TII, Utilities, local authorities, CPOs and HDV operators.
- **Streamline permitting and grid connection procedures** through additional planning derogations and by establishing clear connection timelines and standardised requirements with ESB Networks and EirGrid.
- **Work with public sector partners to support workforce readiness** through targeted training for drivers, technicians and fleet managers, ensuring that Ireland builds the skills to sustain the transition. In this regard, the EV Fleet Assessment Grant which officially launched in July 2025 helps businesses explore the transition to EVs by offering financial support for an independent fleet assessment carried out by a qualified energy advisor. The assessment provides a detailed review of their existing fleet, including mileage and fuel consumption, identification of routes and vehicles suitable for electrification and guidance on the type and scale of charging infrastructure required. This support is available to large enterprises, SMEs, and semi-state bodies seeking to decarbonise their fleet.
- **Further incentivise** enterprises that deliver transport emission reductions

While the above points identify the critical steps to support the electrification of the HDV sector, it should be noted that the Government is also exploring the deployment of hydrogen and other potential alternative fuel options, with a pilot on hydrogen refuelling infrastructure in development.



Chapter 6 /

Managing Electricity Network Demand



6. Managing Electricity Network Demand

Ireland's electricity demand is rising at present, accompanied by a change in the electricity demand profile coupled with a notable shift toward renewables in our system. Among the primary contributors of increased electrification is an increasingly electric transport fleet. As transport electrification continues, more pressure will be placed on Ireland's electricity grid. Smart management of this demand from electrification offers the potential to significantly reduce additional network load.

As a result of increased demand, it can be challenging to secure grid connections for EV charging infrastructure in a timely manner, particularly for the provision of high-powered charging infrastructure where the loads are typically higher. Accompanying this shift in the load profile are substantial challenges for generation, transmission and distribution networks.

To encourage customers to charge at times which support network stability and facilitate increasing EV demand, innovative, dynamic pricing models could be introduced which encourage charging during periods of low demand (e.g., overnight) and discourage charging during periods of high demand, when the grid is under stress. Looking to the future, bidirectional charging will allow EV drivers to store excess energy and sell it back to the grid during peak periods. This approach will optimise grid utilisation, reduce strain and unlock new value streams for consumers and CPOs.

Ireland is building a cohesive and forward-looking framework to support EV adoption, smart charging and grid integration. ZEVI, SEAI, CRU, EirGrid and ESB Networks are coordinating through the National Energy Demand Strategy to align tariffs, connection offers and technical investments such as substations and smart controls. Strategic alignment across national plans, EU regulations and technological innovation position EVs as a cornerstone of Ireland's transition to a low-carbon, flexible energy system.

6.1 EV Energy Demand to 2030/2035

ESB Networks' Electrification of Heat and Transport Strategy (2021)[29] and its Networks for Net Zero Strategy (2023)[30] reinforce the role of EVs in reducing fossil fuel use and emissions. These strategies project a 53% increase in electricity demand by 2030 and a 228% rise by 2050, requiring sustained investment of over €1 billion annually in grid infrastructure. EirGrid's Capacity Statement (2022–2032) supports these projections, highlighting the potential of EV charger technology to reduce grid impact and forecasting an 8% reduction in peak demand through flexible services.

29 https://esbnetworksprdsastd01.blob.core.windows.net/media/docs/default-source/publications/electrification-strategy-of-heat-and-transport-pdf-927-kb.pdf?sfvrsn=fe8f6867_1

30 https://www.esbnetworks.ie/docs/default-source/publications/networks-for-net-zero-strategy-summary.pdf

Year	2025	2026	2027	2028	2029	2030
No of BEVs (000s)	205	300	400	500	600	700
Estimated Energy Demand* (GWh)	1,280	1,875	2,500	3,125	3,750	4,375

* Assumes LDV only with avg. battery size 60kWh fully charging twice weekly.

Table 9. EVs and Associated Energy Demand

6.2 ESB Networks Investment

In response to delayed grid connections, ESB Networks, in coordination with the Commission for Regulation of Utilities (CRU), has run or signalled procurement for medium-duration demand flexibility to help alleviate congestion and reduce the need for firm network reinforcement in some areas. Meanwhile, battery storage deployments are accelerating due to a lack of available grid capacity, which is increasing quotation and subsequent connection lead times.

Price Review 6 (PR6) is the five-year regulatory framework (2026–2030) through which the Commission for Regulation of Utilities (CRU) evaluates and approves investment in Ireland's electricity grid and associated infrastructure. This process covers proposals from ESB Networks and EirGrid to ensure the network can meet future energy demands and support national decarbonisation objectives. PR6 is a cornerstone for scaling Ireland's EV charging network.

The CRU's final determination has allowed ESBN and EirGrid a baseline €13.8 billion investment and the final determination also allows for this investment to increase to an estimated €18.9 billion during PR6, if additional funding is justified to meet emerging system needs that will benefit all consumers. The PR6 package will enable the connection of up to one million EVs by 2030, alongside 680,000 heat pumps and 4.4GW of renewable generation. This requires:

- Reinforcing grid capacity at national and regional levels to support high-power charging hubs
- Upgrading substations and installing over 300km of underground cables and 1,000km of overhead lines
- Implementing smart grid technologies to manage flexible demand from EV charging
- Coordinating with ZEVI's National EV Charging Network Plan and regional strategies to ensure chargers are deployed where demand is highest

ESB Networks will play a pivotal role in integrating EV charging into grid planning, ensuring resilience and interoperability across the network. This alignment supports Ireland's CAP targets and the AFIR requirements for accessible, reliable charging infrastructure.

ESB Networks is also leading several pilots to expedite the installation of EV charging infrastructure. The first of these is piloting the technical solution to allow an increase in the Low Voltage (LV) load limit from 200–300kVA. A successful pilot will allow high powered charging to be connected at LV for the first time and reduce both the time and costs of a Medium Voltage (10&20,000V) connection. This pilot is being run in conjunction with three CPOs at different locations across the county. A second pilot is testing the technical solution to allow an increase in the whole current connection limit from 50kVA to 69kVA. If successful, this pilot will greatly help with the connection of AC on-street charging.

6.3 Smart Charging

Smart charging enables EVs to respond to electricity prices, time-of-day signals and battery status, helping shift demand to off-peak periods. Bi-directional charging technologies, Vehicle-to-Grid (V2G), Vehicle-to-Home (V2H) and Vehicle-to-Load (V2L) allow EVs to discharge energy to the grid, homes, or appliances provided that compatible infrastructure is in place. Battery Energy Storage Systems (BESS) and demand response mechanisms also further enhance flexibility.

Further research on bi-directional charging is ongoing, to identify the impact of bi-directional charging on EV batteries. The research will inform planning for EV infrastructure development and design.

As discussed in Chapter 5, electrifying HDVs is a major challenge for Ireland. HDVs' large batteries and predictable usage patterns may make them well-suited for V2G applications, especially when combined with smart charging and energy storage.

Case Study: *V2G*

Utrecht Energised

The Netherlands is a global leader in deploying solar and wind energy. While their efforts have accelerated the transition to clean power, they have also introduced significant challenges for grid management. Renewable energy sources generate high peaks in supply, requiring systems that can adapt rapidly to fluctuations in generation and consumption.

In November 2024, the City of Utrecht launched Europe's first fully operational V2G-enabled car-sharing service. This pioneering initiative is a collaboration between Renault Group, MyWheels and We Drive Solar, creating a unique ecosystem that combines sustainable mobility with energy grid stability. This V2G initiative tackles renewable energy challenges by incorporating bi-directional charging into a shared electric mobility system. It enables vehicles to store excess solar energy and return power to the grid during periods of high demand.

Impact and Innovation

This initiative demonstrates how shared electric mobility can scale while contributing to energy system resilience. By enabling EVs to act as distributed energy storage, the project stabilises the grid while providing residents with affordable, sustainable transport options.

By leveraging V2G, Utrecht is not only reducing emissions but also creating a blueprint for cities seeking to balance renewable energy integration with urban mobility needs.

Regulatory and Technical Standards for Smart Charging

AFIR sets mandatory technical standards to ensure interoperability, accessibility and futureproofing of EV charging infrastructure. A key requirement is the adoption of ISO 15118 and ISO 15118-20. These standards underpin key functions such as Plug & Charge authentication, smart charging, V2G integration and bidirectional power flow.

Compliance Timeline:

- From summer 2025, all new public chargers must support ISO 15118-1 to ISO 15118-5.
- From January 2027, all new and refurbished public charging points and all new private charging points must support ISO 15118-20. Public charging points offering plug-and-charge or similar automated services will also need to support both ISO 15118-2 and ISO 15118-20.

The European Commission's Automotive Action Plan (March 2025) reinforces these objectives by promoting smart and bi-directional charging, advocating for fair pricing structures and eliminating double taxation on stored energy. It also introduces plans for a network code on demand response and supports V2G pilot projects through regulatory sandboxes.

Under the EPBD (European Performance of Buildings Directive), requirements are set out for the installation of recharging points for electric vehicles in new buildings and buildings undergoing major renovations, as well as in existing non-residential buildings. Member States must ensure that recharging points installed in new, existing and renovated buildings are capable of smart charging and, where appropriate, bidirectional charging.

These measures align well with Ireland's electrification and transportation strategies, positioning EVs as active participants in grid flexibility and decarbonisation. By embedding smart charging standards and V2G capability into infrastructure planning, Ireland can optimise grid utilisation, reduce peak demand pressures and accelerate the transition to a low-carbon energy system.

6.3.1 Looking Ahead

Looking ahead, further updates to the SEAI charger register will be made from early 2027 to include chargers which comply with ISO 15118-20. These chargers generally have superior V2G capability. As bidirectional charging becomes more prevalent, the register will need to classify compatible device types, outline minimum technical requirements, and provide assurance that listed chargers meet safety and interoperability standards.

6.4 Charging Infrastructure Types and Grid Integration

Ireland's EV charging strategy encompasses a diverse mix of charging solutions, each with distinct advantages and implications for the electricity grid.

Currently, approximately 80% of all EV drivers in Ireland primarily charge their EVs at home. Of these, approximately 80% primarily charge their EV overnight. Home charging offers off-peak flexibility and future V2G potential, but this charging solution is limited to those with their own off-street parking. Overnight charging offers significant potential to utilise overnight wind generation, a period when overall electricity demand is typically at its lowest.

Workplace charging can also support the electricity grid as it aligns with daytime renewables, aligns with the solar peak, and supports demand management.

En-route charging enables faster charging which is particularly suited to long-distance travel. This requires careful grid planning due to the associated high-power demand.

6.4.1 Residential Charging

Residential charging remains the most common and cost-effective method of charging, typically occurring overnight during off-peak hours. ZEVI's Home Charger Grant and Apartment Charger Grant incentivises smart charging installations, though most current systems are not yet V2G/V2H ready. Future updates to the SEAI Register and grant schemes will need to reflect the growing importance of V2G technologies.

Case Study

ESB Networks Dingle Electrification Project

A notable example of domestic flexibility is the ESB Networks Dingle Electrification Project, a three-year pilot involving 35 participants. The project demonstrated successful demand response, with EVs discharging energy to the grid within one minute of a signal. Most participants charged overnight, aligning with low-cost tariffs and low carbon intensity, showcasing the potential for community-level EV flexibility.

6.4.2 Workplace Charging

Workplace charging can play a vital role in supporting employees who lack home charging access, while also contributing to a more resilient electricity grid. By shifting charging to off-peak periods and integrating with renewable generation, workplace charging helps smooth demand spikes and reduce strain on the grid. Additionally, because workplace charging typically uses slower charging rates during daytime hours, it aligns well with periods of high solar generation and can be paired with on-site battery storage. Schemes such as the Accelerated Capital Allowance (ACA) enable businesses to claim tax relief on SEAI-registered electric vehicles and charging equipment, making workplace charging an attractive investment.

ISO 15118 compliance will enable smart scheduling and bi-directional energy flows at workplace sites, allowing businesses to integrate EV charging with on-site solar and battery storage. This supports demand-side flexibility, reduces grid stress during peak hours, and creates opportunities for revenue through grid services. The EPBD requirements for EV chargers in workplaces with more than 20 parking spaces will also present an opportunity for businesses to participate in V2G.

6.4.3 Destination Charging

Destination charging usually involves short to medium dwell times and parking areas which may require several charging points. Clusters of chargers can create significant demand on the electricity grid, especially as these sites may already experience substantial daytime loads; unlike home charging, destination charging may coincide with late- afternoon commercial peaks.

Although shorter dwell times limit opportunities for extended load shifting or bidirectional charging, destination charging can still be managed to reduce grid impact. If left unmanaged, charging can cause high coincident peak demand at sites and on local ESB Networks feeders, potentially leading to costly network upgrades. Smart charging strategies (such as dynamic load sharing or staggered start times) help lower peak demand without compromising user experience. Even with limited dwell times, natural diversity in arrival patterns and state of charge can be leveraged to minimise grid stress.

6.4.4 En-Route Charging

High-powered en-route charging is a critical component of Ireland's EV Infrastructure Strategy, enabling high-powered charging along motorways and national roads to support long-distance travel and HDVs.

While high-powered charging is essential for convenience, productivity and range confidence, it presents challenges for grid flexibility compared to slower, managed charging at homes or workplaces. Significant investment in transmission and distribution networks will be required to accommodate the high instantaneous demand associated with en-route charging hubs. These sites often require multi-megawatt connections, which can place considerable strain on local grid capacity and necessitate reinforcement works, particularly in rural or motorway-adjacent areas. ESB Networks has anticipated this investment in its PR6 proposal to the CRU and ZEVI welcomes the CRU determination in this regard

High-powered EV charging hubs will also need to incorporate ISO 15118-20 to facilitate V2G and dynamic load management. While these sites present challenges due to concentrated demand, smart charging protocols and storage solutions can help mitigate grid impact and improve resilience.

6.5 Battery Energy Storage Systems (BESS)

Battery Energy Storage Systems (BESS) are large, stationary batteries that store electricity and release it when needed. In public EV charging applications, BESS are usually installed by CPOs and co-located at larger hubs or areas where grid capacity is constrained. BESS act as a buffer between the electricity grid and EV chargers, soaking up grid energy when it's cheap/plentiful, supplementing it with renewable power where available, and discharging electricity at busier times when more drivers are charging. BESS reduce stress on the grid during peak periods and enable high-powered charging where the available grid capacity is lower than required.

One of the primary benefits of BESS in EV charging is peak shaving. High-powered chargers require large amounts of power which can necessitate expensive connection costs and delay initial connection to the grid. BESS can store energy and deliver it during peak charging times, while the grid supplies a constant lower level of power. This keeps the electricity demand profile smoother and requires a lower Maximum Import capacity (MIC), which in turn avoids higher capacity charges from the DSO.

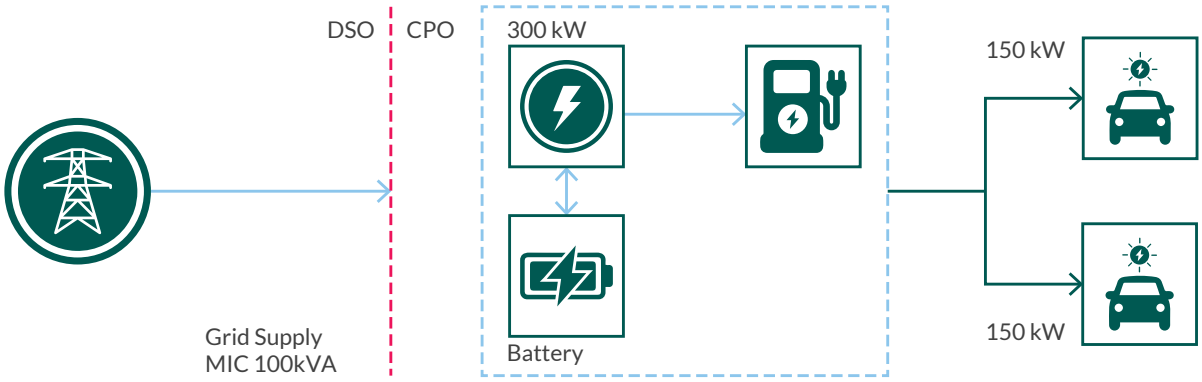


Figure 22. BESS for EV Charging

BESS can also improve the reliability of charging infrastructure. During grid outages or power fluctuations, BESS can keep chargers running or reduce power instead of shutting down entirely. As EV adoption grows, CPOs can scale up charging capacity by adding more storage rather than requesting and commissioning larger grid connections. BESS can also participate in demand response schemes, offering CPOs an additional revenue stream.

ZEVI recognises the importance of BESS for the deployment of a national EV charging network and are currently working with ESB Networks and other stakeholders to pilot a wider deployment of this technology at two locations. ZEVI will continue to actively promote and fund this technology during the period of this strategy.

6.6 Designing Flexible EV Charging Pilot Schemes

To accelerate the integration of EVs into Ireland's energy system and advance national decarbonisation objectives, the implementation of flexible pilot schemes is a strategic priority. These pilots will be developed in collaboration with ESB Networks and incorporate key technologies such as battery storage, microgeneration, smart energy management and bi-directional charging. Embedding these capabilities within real-world charging environments will enable rigorous testing of EVs as dynamic energy assets, providing critical insights to inform future infrastructure planning and policy.

Pilot schemes can span a range of use cases to reflect Ireland's diverse charging needs. Workplace charging pilots can explore off-peak energy use and solar integration, while domestic pilots can assess the role of smart home energy systems and V2H/V2G functionality. Mixed-use pilots (combining retail, residential and workplace settings) can evaluate shared infrastructure and energy optimisation across user types. Destination charging pilots can test renewably powered, multi-user models, while HDV depot pilots can examine the potential for large-scale fleet flexibility and overnight charging.

Each pilot will be supported by robust data collection and analysis to assess scalability, performance and user behaviour. Insights from these pilots will inform future infrastructure planning, policy development and inform future grant scheme design. By embedding flexibility into pilot design from the outset, Ireland can ensure its national EV charging infrastructure is resilient, future-proofed and aligned with broader energy system transformation. As technology evolves, changes will be introduced to funding and grant schemes to encourage and support the deployment of battery storage and the use of flexibilities.

Case Study: *Solar and Battery*

Galway, Westside EV Charging Hub

The Westside EV Charging Hub represents a pioneering approach to sustainable mobility, integrating renewable energy and advanced storage solutions. The hub harnesses solar power via a 53kW photovoltaic (PV) system installed at the nearby Westside Community Centre.

Generated energy is stored in a 150kWh Battery Energy Storage System (BESS), which supplies the adjoining car park's EV charging infrastructure. To ensure uninterrupted service during peak demand or periods of low solar generation, the system leverages spare capacity from a neighbouring boxing club facility.

The hub offers publicly accessible charging through dual DC fast chargers (up to 150kW) and dual AC chargers. Developed in response to local residential needs, the solution addresses the challenge faced by households without access to home charging. Between 18:00 and 08:00, AC chargers are prioritised for city residents without home charging options. Additionally, taxi drivers benefit from discounted DC charging rates, supporting the transition to a greener taxi fleet.

Designed for scalability and interoperability, the system can accommodate future increases in demand. The modular design enables expansion of AC charging capacity, solar generation, integration of additional renewable sources and augmentation of battery storage capacity, facilitating the deployment of higher-capacity and faster-charging infrastructure as required.

Insights from this pilot will guide local authorities in implementing innovative EV charging solutions, particularly in areas where grid capacity constraints may limit high-speed charging deployment. Furthermore, the scheme demonstrates how authorities can offer reduced charging tariffs for residents while maintaining financial sustainability.



Chapter 7 /

Delivering Infrastructure



7. Delivering Infrastructure

The medium-term delivery of public EV charging infrastructure (2026–2028) is critical to sustaining EV adoption momentum. Evolving standards for Government-supported schemes will shape delivery, alongside planned funding instruments. These supports will target and address identified gaps in the EV infrastructure market and accelerate deployment. The overall objective of this increased period of infrastructure delivery is to stay ahead of planned demand and continue to support increasing EV uptake and reassure potential EV adopters through the availability of public charging infrastructure.

This chapter will set out the requirement for public EV charging infrastructure in the medium (2026–28) term. It explores the evolving standards that will apply to Government supported schemes, provides an update on existing supports and outlines the planned Government actions and funding instruments. To continue to support the EV transition, ZEVI has been allocated funding under the Road Networks & Road Safety portions of the Transport Sectoral Investment Plan, November 2025, with significant increases yearly over the next 5 years in line with the increased investment requirements for charging infrastructure. To support the roll-out of infrastructure schemes announced in 2025, an increase in funding of 20% is allocated in 2026 with a further 16% increase for 2027.

These supports will target and address identified gaps in the EV infrastructure market. The overall objective of this increased period of infrastructure delivery is to stay ahead of planned demand and continue to support increasing EV uptake. Precise funding allocations for ZEVI activities will be agreed annually as part of the Estimates process. However, the Transport Sectoral Plan provides for significantly increased capital funding to support delivery of the ambitious investment programme set out in this strategy.

The ambition of this strategy is to continue delivering an EV charging network that will meet and stay ahead of EV users' needs and charging requirements, addressing the gaps identified since the launch of the previous 2022–2025 strategy.

Guided by the strategy's fundamental principles and a strong understanding of user needs, the delivery of EV charging infrastructure is based on several key understandings. First, there is no single charging solution that suits every EV user. Drivers will rely on different types of charge points depending on their personal circumstances and their journey requirements. What matters is providing a sufficient mix of charging options so every user can charge their vehicle conveniently, efficiently and cost-effectively.

A core foundation of this strategy is its use of detailed user personas, which grounds decision-making in a clear understanding of real charging behaviours, perceptions and needs. By embedding these insights into the strategy, the approach ensures that standards, government supports and funding instruments are designed around genuine user needs. This user-centred approach is and will continue to be key for the development of standards and for the provision of Government supports and funding instruments as part of this strategy.

The areas of primary focus for infrastructure delivery over the 2026–2028 period are:

- **Home charging**
  Home charging will continue to be the primary method of charging for most EV users in Ireland. ZEVI will continue to prioritise the installation of smart home chargers and to encourage the development and deployment of V2G technologies where feasible. This strategy will also extend, where possible, to the provision of adjacent infrastructure for those without access to off-street parking.
- **Neighbourhood charging**
  Neighbourhood charging is often required by those without dedicated access to off-street parking. ZEVI is working with all local authorities across Ireland to provide local and neighbourhood-based charging solutions for EV owners without access to off-street parking. A further policy consideration is how to make public overnight EV charging cost-effective for those without access to a home charger.
- **En-route charging**
  En route charging involves the provision of higher-power charge points at strategic locations on the national road network. En-route charging is typically provided in hubs with multiple chargers located in a single location. En-route charging offers the fastest charging speeds available and a full charge can be completed in 30–40 minutes.
- **Destination charging**
  Destination charging is typically found in places like retail parks, shopping centres, hotels and tourism locations. These are usually installed by owners together with CPOs to offer a convenient and accessible way for guests and customers to charge their EVs while enjoying the amenities of the destination.
- **HDV charging**
  ZEVI and TII will take steps to procure and deploy public HDV charging infrastructure.

7.1 Enhancing Equitable Access and Use

Ensuring equitable access to EV charging is essential if Ireland is to deliver a just and inclusive transition to electric transport. Accessibility is accordingly a foundational requirement across all infrastructure delivered under this strategy. Without intentional interventions, there is a risk that the benefits of electrification may be unevenly distributed. Since the publication of the previous strategy, notable progress has been made in improving the charging user experience for all.

The Universal Design Guidelines (UDG), published in 2024, provide a national framework for delivering inclusive and user-friendly charging infrastructure and will guide the design of future publicly funded charging infrastructure. ZEVI will engage with DPROs and other accessibility stakeholders to ensure that the UDGs evolve in line with user needs and international best practice. Compliance with the Universal Design Guidelines is mandatory for all publicly funded EV charging infrastructure and will be reflected in scheme terms, contractual requirements and post-installation monitoring.



Figure 23. Universal Design

Several challenges to equitable access remain, largely falling into two overlapping areas: geographic access and income & housing disparities. These inequities particularly affect individuals and households without access to private charging opportunities.

Uniform supports fall short for those without private parking. These individuals rely on shared or public chargers, which are often unavailable and are more expensive than home charging. Urban houses are less likely to have private driveways compared to rural houses. Urban areas are more likely to have renters: one in four households in urban areas rents their home.[31] Both of these household types face barriers to installing private home charging, whether due to regulatory hurdles or administrative challenges.

For low-income households, reliance on public charging is further complicated by limited access to affordable rates, as commercial providers often do not offer the lower off-peak tariffs available to home users. While price transparency at public charge points and ad-hoc payment options have improved as per AFIR requirements, as set out in Chapter One, this does not address the underlying issue of affordability. For users who cannot access cheaper home charging, such as renters, apartment dwellers and those without off-street parking, reliance on public infrastructure can lead to significantly higher charging costs. This creates an uneven cost burden that can disproportionately affect lower-income households and risks reinforcing existing inequalities in transport and energy access. ZEVI welcomes all measures to increase competition in the EV charging market and will evaluate the impact of local authority pilots providing lower cost night-time charging to residents, with a view to considering if such schemes could be deployed more broadly.

The Government's primary approach to driving affordability for EV users is to broaden the scope for people to use home charging or quasi home charging as a default option and to encourage competition in the CPO market. ZEVI will also undertake a regulatory review of the EV charging infrastructure sector to explore how to monitor CPOs' compliance with AFIR and other requirements. Pricing with regard to affordability particularly for long duration night-time users of public infrastructure, pricing transparency, accessibility and usability will all be included within the scope of this review.

31 https://www.cso.ie/en/releasesandpublications/ep/p-urli/urbanandrurallifeinireland2019/housing/

7.2 Regulations & Legislation that Will Affect Infrastructure Provision

7.2.1 Energy Performance of Buildings Directive (EPBD)

The EPBD, which will be transposed into Irish law in 2027, will require new and renovated buildings to install EV charging points, pre-cabling, ducting, load-management systems and bicycle parking, significantly improving infrastructure readiness in private and publicly owned non-residential buildings. By aligning with AFIR and the European Green Deal, EPBD Article 14 will ensure the provision of widespread EV charging solutions, thus driving the deployment of public and private recharging points and supporting Ireland's clean-transport transition.

7.2.2 Cross Pavement Charging

As discussed, the majority of Irish EV drivers primarily charge their vehicles at home. However, there is a sizeable number of property owners and/or renters for whom home charging is not an option due to the lack of a driveway or the terrace design of their properties. These EV drivers are therefore reliant on workplace or on-street public charging as their primary means of charging their EVs.

While there is a wide variance in charging tariffs being charged by CPOs, the cost of charging an EV at home is typically 3–4 times cheaper than using the public network. Many electricity suppliers now offer very competitive overnight charging tariffs, as low as 8–9c/ kWh. In comparison, a typical public AC tariff tends to be in the region of 40–55c/kWh. This significantly reduces the economic advantage of EV ownership for those without access to home charging.

There are an increasing number of technical solutions available and installed in other jurisdictions which enable drivers without a driveway to charge at home. Most solutions consist of a channel-type device which is installed in a footpath or pavement and allows a charging cable to be safely installed across a footpath while the EV is being charged. At present, such 'cross-pavement charging' is not regulated in Ireland and there are no consenting or permitting regimes in place.

This is also relevant in the context of the impact the optimum positioning of on-street public EV chargers by CPOs as the current regime requires the EV charger and the ESBN metering pillar to be located side by side. This can impede proper charger positioning, future operation and maintenance activities and result in sub-optimal placement of street furniture.

Following an extensive consultation exercise with industry in 2023, the government has decided that in future, cross pavement charging will be permitted in locations where they are, inter alia, a solution to allow on-street charging of EVs. This will be a significant and positive step for EV consumers and is intended to provide a framework whereby technical solutions can be implemented which will allow EV drivers, currently without access to home charging, to do so and to avail of cheaper domestic electricity tariffs – particularly when charging overnight.

To implement this high-level statement of policy, engagement is ongoing between the Department of Climate, Energy and the Environment, and the Department of Transport, to ensure that the Electricity Regulation (Amendment) (Direct Lines) Act 2026 supports the principle of cross-pavement charging of EVs. Supporting regulations to define standards and processes for consenting and permitting for cross pavement charging (including in the context of road opening and planning legislation) will also need to be defined and adopted.

ZEVI recognises the multiple benefits this initiative will have for the industry, its potential impact on neighbourhood charging plans in some areas and most importantly the benefits for EV drivers currently without access to home charging. ZEVI will continue to work with all stakeholders including DCEE, CRU, local authorities, SEAI and ESB Networks to progress and implement it as a priority in the early stages of this strategy period.

A working group has already been established and will be chaired by ZEVI to work with all stakeholders to regulate cross-pavement charging solutions and to introduce a streamlined permitting and delivery process to install this infrastructure. While legislation is in development, ZEVI will also collaborate with SEAI and local authorities to provide a procedural template for supporting this measure, through an enhanced home charger grant.

7.2.3 Permitting

Local authorities, in accordance with the Planning and Development Act 2024, are responsible for granting permits for development projects, including EV charging infrastructure, where not otherwise exempt. When planning permission is required, the application process typically involves submitting detailed plans, conducting environmental assessments and consulting with stakeholders. By obtaining the necessary permits and approvals, stakeholders can ensure that the site selection process for EV infrastructure is legally compliant, environmentally responsible and aligned with local planning regulations.

Under the planning and development acts and regulations, certain charging stations may be exempted from the obligation to obtain planning permission [S.I. 215/2021]. These exemptions should be considered in the context of the impacts on the environment, conservation areas and heritage of culture and the built environment. Exemptions may apply for the items below provided that such electrical construction or adaptation is carried out by a registered electrical contractor within the meaning of section 9D of the Electricity Regulation Act 1999 (No. 23 of 1999). These exemptions cover two main categories: individual charging points and charging hubs.

- For individual charge points, the structure must not exceed 0.75 cubic metres above ground when located on a public road, or 3.6 cubic metres elsewhere and adaptations of street lighting poles or parking payment machines for dual use are also permitted.
- Charging hubs may include up to four charging points and one substation, provided they are located in existing, compliant parking facilities and are at least 500 metres from another hub.

These exemptions, however, do not apply to protected structures, conservation areas, or larger installations such as motorway and dual carriageway charging infrastructure, HDV charging facilities, and, in some cases, smaller charging pools, which could become critical path items for certain projects.

ZEVI is actively engaging with the Department of Housing, Local Government and Heritage, with input from industry stakeholders, to develop and expand the suite of planning exemptions applicable to the installation of charging infrastructure and associated electrical infrastructure.

7.2.4 Regulatory Review

The Department of Transport will commence a review of the regulatory structures around EV charging infrastructure in 2027. This review is required as the regulatory responsibilities of EV charging infrastructure in Ireland are currently shared across a number of separate bodies. The review will examine how Ireland's policy frameworks perform across different areas to ensure Ireland has a realistic prospect of meeting its binding obligations. The regulatory review will place particular emphasis on the enforcement of AFIR requirements relating to payment operability (including the availability of contactless payment, ad-hoc access and pricing transparency), and real-time availability information. This will ensure that users can easily engage in route planning, and access charging services without the need for multiple applications or contracts. The focus areas of the review will include:

- Pricing including AFIR compliance around disclosure
- Accessibility – delivery of infrastructure that meets the UDGs, including ongoing engagement with Disabled Persons Representative Organisations
- Data – open data requirements & operational data
- V2G integration and readiness for same
- Responsibilities across different Departments, agencies etc
- Regulatory oversight
- Reliability and network uptime metrics

7.3 Charging Infrastructure Schemes

All publicly funded charging infrastructure schemes include contractual performance requirements designed to ensure high standards of reliability and user experience. These can include data-sharing obligations and requirements relating to UDGs etc. These KPIs are central to ensuring value-for-money for the Exchequer, supporting user confidence and providing a clear performance framework for CPOs operating publicly funded infrastructure.

7.3.1 Schemes Under Delivery

As highlighted in Chapter 4, the following schemes have closed their applications (where applicable) and have commenced the installation of charging infrastructure: the Shared Island Sports Club Scheme, all en-route LDV schemes (LDV1, 2 and 3), the Dublin Local Authorities' scheme, the Limerick City & County Destination Scheme and the Local Authority pilot schemes. These schemes will deliver a record volume of publicly funded en-route, destination and neighbourhood EV charging infrastructure across Ireland by the end of 2026.

7.3.2 Schemes Open for Applications

The following schemes are currently open for applications.

Electric Vehicle Home Charger Grant

Established in 2018 and administered by the SEAI, the Electric Vehicle Home Charger Grant is a government funded support scheme assisting residents and homeowners to install an EV charge point on their property. The scheme provides a grant up to the value of €300 towards the purchase and installation of a home charger. The grant is open to all homeowners, whether they own an EV or not. Since September 2022, the Electric Vehicle Home Charger Grant only supports smart chargers. When applied on a system-wide basis, smart charging can work to accommodate greater penetrations of renewable generation through the facilitation of V2G capability, deliver cost savings for EV users and maximise efficiencies across the electricity distribution network. Since this scheme was initiated in 2018, over 80,000 grants have been awarded for home installations.

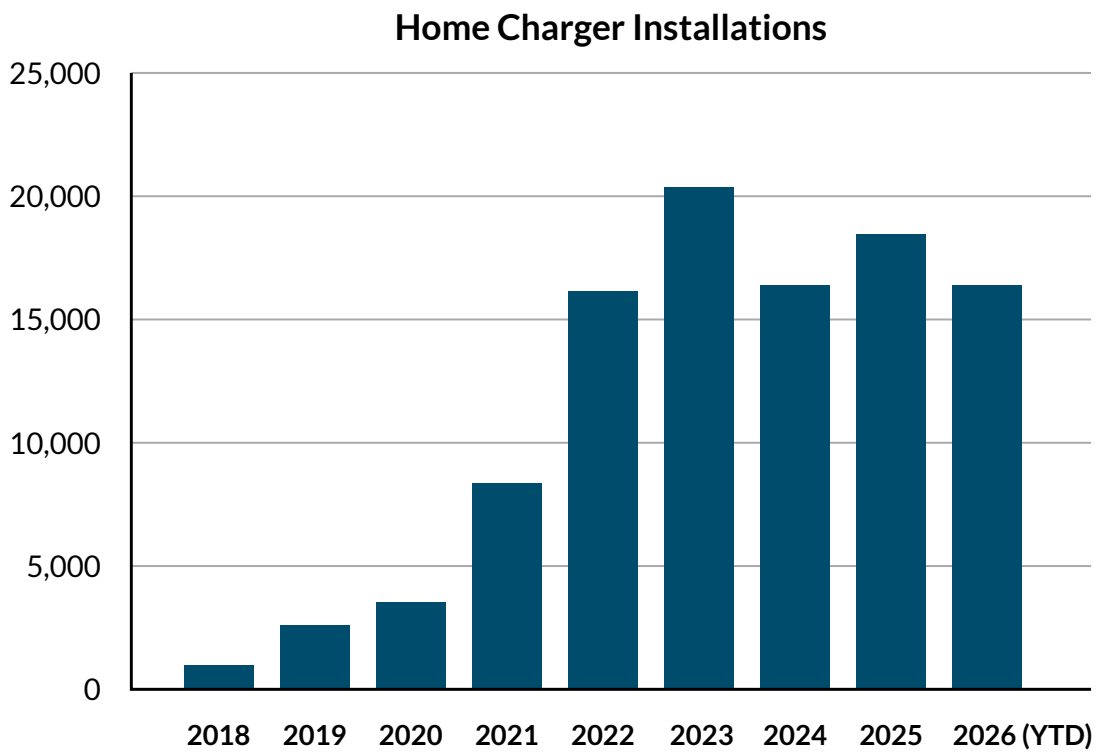


Figure 24. Home charger installations supported with the home charger grant, annually

Apartment Charging Grant Scheme

The Apartment Charging Grant Scheme, operated by the SEAI on behalf of ZEVI, supports the installation of EV charging infrastructure in apartments and multi-unit developments where residents do not have private off-street parking. Developments must have at least 2 units, shared facilities and shared or private parking not within individual property boundaries. Where there is no existing EV charging system or network in the car park, the management company can apply for funding for eligible infrastructure costs and charge points.

Eligible applicants include owners' management companies, local authorities, approved housing bodies and landlords or developers of multi-unit developments. Depending on the applicant type, grant support can cover a higher percentage of eligible costs (e.g. up to 90% for local authorities or housing bodies, 80% for owners' management companies and 60% for "build-to-rent" management companies). Grants are available of up to €100,000 for developments, capped at either €5,000 per dwelling or €100,000, whichever is lower.

ZEVI and SEAI are currently reviewing this scheme and in particular its alignment with the EPBD Directive. Upon completion of this review, the scheme may close to new applicants in 2026 and the scheme will be relaunched in 2027.

ZEHDV Recharging Infrastructure Grant Scheme

The Zero Emissions Heavy Duty Vehicles (ZEHDV) scheme helps companies and enterprises to transition their fleets to a zero-emission fleet. This scheme is an extension of the vehicle purchase scheme, expanded to also fund charging infrastructure. This helps reduce the financial barrier for freight and logistics companies to adopt zero-emission HDVs by contributing both to the cost differential between a diesel truck and its electric equivalent and the cost of installing charging infrastructure.

There are two variations of the scheme: the Zero-Emission Heavy Duty Vehicle - Infrastructure (ZEHDV-I) and the Zero-Emission Heavy Duty Vehicle - Infrastructure Port (ZEHDV-IP) Grant Scheme. The ZEHDV-IP scheme funds publicly accessible infrastructure at inland and maritime ports and cannot be used solely for private use by the Applicant. The ZEHDV-I scheme funds infrastructure at locations that are not part of these ports; these chargers can be used solely for private use by the Applicant and / or made available to the public.

The exact funding level depends on factors such as the size of the enterprise and whether the infrastructure is in a disadvantaged area (which can increase the aid intensity).

EV Fleet Assessment Grant

SEAI is offering up to €8,000 to companies looking to decarbonise their fleet. An SEAI EV fleet assessment will provide the organisation with an experienced assessor who will examine their current fleet and assist in identifying a pathway to fleet electrification. The assessor will look at EVs and the charging infrastructure required to support them. The assessment includes:

- A review of the current fleet, its mileage and fuel consumption
- Recommendations on which routes/vehicles are suitable for electrification
- A charging plan to support the proposed changes
- What charging infrastructure is required

Future Infrastructure Funding Schemes

ZEVI will continue to support infrastructure schemes throughout the country as the deployment of infrastructure pivots towards a demand-led solution. The continued expansion will utilise data from the mid-term review coupled with utility data to inform the best use of public funds. ZEVI will continue to work with stakeholders to review the provision of charging infrastructure in tourism and other destination locations and assess if further supports are needed. ZEVI will also work closely with TII and industry stakeholders to implement a public HDV charging scheme to encourage early-stage HDV utilisation and inform future HDV charging infrastructure decisions.

ZEVI will lead the working group to design and implement workable, cost-effective solutions to facilitate on-street cross-pavement charging infrastructure in conjunction with the local authorities. This will provide higher cost savings and levels of convenience to those currently unable to access this type of charging.

At the endpoint for this strategy in 2028, our vision is that the EV charging landscape for LDV and HDV drivers will be substantially more expansive than at present, with higher levels of accessibility and greater transparency in terms of available information for users. Irish EV drivers will have a more comprehensive suite of charging options than ever available to them right across the country. This charging infrastructure will cater for the growing number of EVs on Irish Roads, both LDV and HDV, and be purposely designed to accommodate and cater for different use cases, delivering a more reliable and higher quality user experience.

7.4 AFIR Enforcement

As part of the implementation of this strategy, ZEVI and the Department of Transport will strengthen oversight and enforcement of AFIR requirements relating to:

- Contactless and ad-hoc payment availability at public charging stations;
- Transparent, clearly displayed pricing at the point of use;
- Interoperability of payment systems to minimise reliance on multiple applications or subscriptions.
- The sharing of dynamic, near real-time data on charger availability, status, connector type and power output through open data channels;
- Contractual KPIs for publicly funded charging infrastructure, including minimum uptime, successful charging sessions, data sharing and customer satisfaction metrics;
- Ongoing monitoring of CPO compliance with these requirements through the TII data office and the regulatory review.

These actions will be progressed through the implementation plan and regulatory review processes to ensure a consistent and user-friendly charging experience across the national network.

7.5 Risks and Dependencies

Delivery of the EV Charging Infrastructure Strategy (particularly the AFIR infrastructure targets) in this period will be highly challenging and require transformation of existing systems and processes. There are associated risks that will need to be managed and mitigated by ZEVI and key stakeholders to enable the delivery of the strategy. Table 10 below shows a high-level risk and dependency view. These will be managed as part of the Implementation Plan where an in-depth risk and dependency analysis will be completed.

Risk Description	Mitigations	Stakeholders
Grid/Power availability • Local MV/HV capacity constraints at en-route hubs, retail parks and red-zones forcing delays to connections • Rising network (connection & ongoing) charges could undermine commercial viability	• Greater investment in grid reinforcement through PR6 period • Early engagement with ESBN on available capacity • Greater deployment of smart charging, demand management and off-peak pricing & dynamic tariffs to shift load	ZEVI ESBN TII CRU Eirgrid
Planning & Permitting • Slow or uneven local delivery; inconsistent bay layouts, signage and accessibility • Fragmentation between road authorities, utilities and CPOs	• Early engagement with planners • Revised planning derogations targeting EV infrastructure in 2027	ZEVI TII
Gaps in network coverage (apartments, on-street or rural) • About one-third of households lack driveways • Apartment owners face issues related to metering, cabling and owners' management • Commercial viability of rural and small-town sites	• SEAI Apartment Charging Grant • Target funding to seed rural and small-town chargers through local authority delivery plans • Input to upcoming Cross pavement charging procedures • Development of new incentivised home charger grant to support cross kerb charging in defined circumstances	ZEVI SEAI CPOs
Economics & investor confidence • Demand risk from uneven EV uptake • Sensitivity to wholesale prices and regulated charges	• Blend exchequer support (e.g., ZEVI grants) with private capex • Phased grants for early hubs; encourage greater fleet usage to anchor demand	ZEVI TII CPOs

Risk Description	Mitigations	Stakeholders
Reliability & Interoperability • Driver confidence eroded from broken or busy chargers, incompatible apps, and pricing confusion • Legacy chargers without ad-hoc or card payment capability	• Ensure full compliance with EU AFIR requirements on payment technology, roaming and transparency • Transparent pricing, open roaming and contactless payment on new sites • Maintain high uptime – KPIs in funded projects • Publish real-time status on DXP • Consider compliance regime as part of regulatory review of EV charging infrastructure provision	ZEVI TII
User experience, accessibility, and enforcement • Poor accessibility for wheelchair users, inconsistent wayfinding	• Ensure exchequer funded schemes adhere to national guidelines for accessible layouts, clear pricing displays, and contactless payment (per AFIR) • EU AFIR rules in force (from 13th Apr 2024) for coverage, payment, roaming and transparency	ZEVI
Cybersecurity • Network chargers expose operators to payment and control-system risks	• Ensure infrastructure is protected from cyber attack	CPOs

Table 10. **Risks and Mitigations in the delivery of the EV Charging Infrastructure Strategy**

Appendix A /

User Needs



Anna Abbott



The Apartment Renter
Shared Parking

Background

Age	Location	Status	Income
27	Galway City	Single, no kids	Medium

Travel Patterns

How Often Does She Travel?

Daily, taking the bus to work usually.

When Does She Travel?

Usually travels at peak times in the morning and evening, or weekends out to the countryside

Why Does She Travel?

While Anna works from home part of the week and takes the bus on the other days, she relies on her car occasionally to run errands, like doing a larger grocery trip, or to travel outside of the city for recreational or social purposes on the weekends, when the public transport services aren't as frequent.

Key Moments
Anna, the Apartment Dweller

Motivation

While she can get around on foot or by bus to most places in her area, she prefers access to her own vehicle so she can frequently visit her family home in the countryside or go on spontaneous trips with friends.

Usage

Anna lives in a residential development with her own dedicated parking space, which doesn't presently have a charger installed. She relies on public on-street charging around her block or enroute charging outside of the city.

Concerns

As a renter, motivating the landlord and management company to install charging can be an administrative burden. Public charging alternatives can be more costly and inconvenient to use. On-street chargers can require more planning to move the car after the charging session has ended to avoid incurring additional fees. Anna is also worried that her car may be broken into while it is parked and charging on a public road.

Support

The apartment management company for Anna's apartment block is in the process of installing the EV chargers for the residents using a public grant. Anna will need to have reliable access to the chargers. In addition, she needs to have a reliable booking system that she can access, as the chargers will be in shared parking spaces.

Customer Journey
The Apartment Dweller

Saturday Morning				Saturday Afternoon	Saturday Evening
Moments					
Anna needs to go to lunch with family in Mallaranny. It's about 220 km roundtrip. Anna's parents don't have an at-home charger, so she needs to make sure she has a full charge before she leaves.	Her apartment doesn't have any chargers. Her building's management company has begun the process of applying for the Apartment Charging Grant and will have chargers by the end of the year.	She has a half charge in the car, so she decides to leave a few minutes early so that she can charge on her way. There's a sign off the motorway indicating EV charging is available. It's a fast charger, so it's a bit more expensive than what she'd like to pay, but she needs the top-up.	She waits for about 20 minutes to charge. There are restaurants and shops at the forecourt, so she manages to get a coffee and pick up a dessert for the family lunch.	After a long lunch, Anna drives back home. She wants to recharge her car overnight so its fully charged before she needs it again. She looks for a slow charger in the residential area by her building.	Luckily, one of the slow chargers in her area is available. She plugs her car in, starts the charging session, and walks a few minutes to get back to her apartment.
Highs and Lows					
Excited to spend time with the family	Irritated that she cannot easily access a charger yet at her building	Frustrated that she must resort to another, more expensive charging option	Patient while she gets some food	Resigned to look for a charger when she gets home	Relieved to see a slow charger is free
					
Considerations					
	How might we continue to simplify the process of providing charging for different dwelling types?	How might we support users who have limited alternatives but to use higher-cost chargers?	How might we continue to provide facilities at enroute forecourts so that the wait is comfortable and pleasant?	How can we expand access to slower, overnight chargers in residential areas to people without access their own charger?	How might we help users find chargers that meet their charging needs?

Caroline Connolly



The Car Sharer

Background

Age	Location	Status	Income
30	Drumcondra, Dublin	Single	Low

Travel Patterns

How Often Does She Travel?

Commutes to work 2–3 times a week by bicycle and makes shorter local trips on days she works from home

When Does She Travel?

Peak commuting times in the morning and the evening and some lunchtime trips when she works from home

Why Does She Travel?

She primarily commutes to work using her bicycle or public transport as this is generally the quickest and cheapest way to travel. She uses a car a few times a year when she either can't access the destination by public transport or when she will have too much to carry – such as for going out to retail parks for larger shopping trips or for a weekend trip outside the city to more remote areas, like national parks.

Key Moments
Caroline, the Car Sharer

Motivation

Caroline can be more environmentally friendly and economical by using car sharing on the few occasions she really needs a car, rather than owning and maintaining her own. Since the car share has a strict booking time limit with penalty fees for overtime use, she needs to be able to fulfil her journey purpose in the limited time she has.

Usage

Generally, the car has more than 50% charge on it – enough to complete her trip. But if the car goes below a certain percentage, she has to recharge the vehicle before ending her booking. Caroline will look for chargers at the destinations she is visiting just outside of the city, in neighbouring towns, sites, or nature parks, or she may need to park the car at the end of her booking at an on-street charging station.

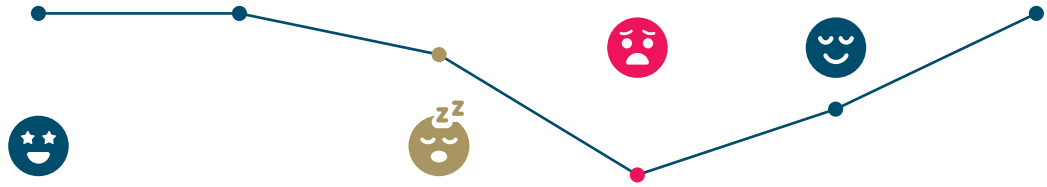
Concerns

She is worried that if she needs to charge the car, where she can charge it to avoid the penalty fee. She needs to be able to quickly locate chargers within larger parking areas to avoid eating into her booking time. Since she's not a regular EV user, starting and stopping a charging session can be confusing. She doesn't want to pay out of pocket for the charging session, so she needs to make sure the payment process between the charger and the car sharing process is user-friendly.

Support

Easy-to-use and locate charging is key as Caroline is not a regular user. She needs fast charging available at a wide range of destinations like recreation and nature parks, as well as local shopping centres.

Customer Journey
The Car Sharer

Planning		The Journey			The Way Home
Moments					
Caroline has just moved and needs to move her belongings across the city, from Drumcondra to Kilmainham. She signs up to a car-sharing app so that she can move her belongings and make a trip to the retail park to pick up some new home decor.	Caroline plans to pick up an electric car, since it's the largest vehicle available near her by bus, on Saturday morning. This is usually a busy time, so she books the car in advance to avoid disappointment.	Caroline takes a bus a few stops to get to the car. The car is only partially charged, but that's enough to cover the 50km she needs to drive today. She packs up the car and makes a few trips back and forth from the old apartment to the new apartment.	On Saturday afternoon, Caroline makes a trip to the retail park. She needs to make sure that the car has enough charge in it to avoid a penalty fee when she returns to the pick-up location. But she's also got a limited booking time, so she can't afford to waste time standing around while the car charges.	Caroline isn't familiar with EV charging services. She checks online and finds a fast charger in the retail park. It's included in the car-sharing company's charging network, so she charges the car while she does her shopping.	Caroline brings the recharged car back to the pick-up location and takes the bus home.
Highs and Lows					
Excited to move to a new apartment	Relieved to have booked a car	Tired from all the moving	Anxious about finding a charger to conveniently charge while running errands	Relieved that she could find the information she needed	Satisfied about accomplishing everything she needed in time today
					
Considerations					
How might we encourage people to consider e-car sharing as a viable alternative to owning a car?	How might we ensure that e-mobility options are easily accessible by public transport or active mobility?	How might we ensure that e-mobility options have ready access to nearby charging opportunities?	How might we support users to quickly find charging facilities, so they don't waste time cruising for a charger?	How might we provide accessible information about EV charging to infrequent users?	

Rachel Rooney



The Retired Urban Dweller

Background

Age	Location	Status	Income
67	Clonmel, Co. Tipperary	Widowed, 2 grown up sons	Low

Travel Patterns

How Often Does She Travel?

One to two times a week.

When Does She Travel?

Early mornings or afternoons.

Why Does She Travel?

Rachel needs to make small trips around town. She mainly goes to the shops, to visit family, and to medical appointments. She uses a wheelchair, so she relies on a vehicle to get around since there aren't enough sidewalks with ramps and enough space and the public transport services are infrequent.

Key Moments
Rachel, the Retired Urban Dweller

Motivation

Rachel has an EV because, as an automatic, it is easier to drive and she'll save on fuel costs in the longer term. Even though she doesn't have access to her own driveway where she can install a private charger, there are a few public chargers in her area and plans for additional chargers to be installed.

Usage

Rachel lives in a terraced house abutting the pedestrian pavement, where she parks her EV on the street. She currently cannot install a private charger because it would mean the cable would need to run over the public pavement. Rachel needs to use public chargers which meet her accessibility requirements, especially in her residential area. For example, there needs to be space around the car so that she can move comfortably with her wheelchair. If the neighbourhood charger isn't available, Rachel usually charges at her destination – whether it's at the doctor's office or the supermarket.

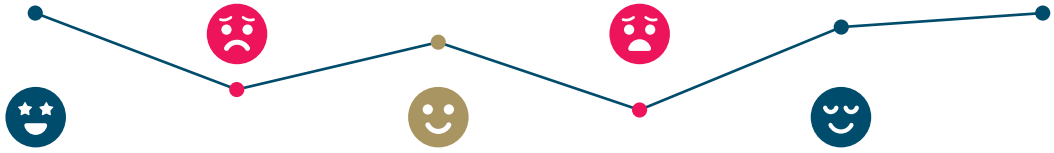
Concerns

She is worried that the accessible on-street slow charger in her neighbourhood is unavailable when she needs it. It's tiring for her to physically go check on the charger's availability. When she does need to rely on a public charger, she gets anxious about not knowing what to expect when she gets to a charger – will there be an accessible spot and will there be enough signage to help her find it?

Support

Being shown how to use an EV charging app and the chargers is important to helping Rachel retain her independence while travelling. She also needs adequate signage to find the appropriate spots and would like to see more fully accessible charging spaces installed. She needs to be able to request that a fully accessible charging space be provided near her home.

Customer Journey
The Retired Urban Dweller

Planning				Charging	The Way Home
Moments					
Rachel has to go to a doctor's appointment. It's a 15-minute drive to the other side of town. She doesn't have her own driveway where she can install a charger, so she relies on public charging while she runs errands or the charger around the road. Luckily, she doesn't need her car much.	She's running late and realises she might only have enough charge to get to the doctor. She needs to top up her charge either on the way or at the doctor's office.	She needs an accessible spot and a fast charger beside the doctor's office. The practice's website stated a public charger is in the parking lot. She's not sure what to expect when she arrives.	She's nervous that she won't be able to find the charger. She has never parked there before so is on the lookout for signs.	She arrives to the doctor's practice and after a bit of searching finds the spot. It's luckily adjacent to a wheelchair accessible parking space. She plugs in her car to the fast charger.	Rachel heads in to see the doctor and when she comes out her car has plenty of charge to take her home.
Highs and Lows					
Confident that she knows where she's going	Nervous about her range	Reassured that the website has confirmed there is a charger	Worried she won't be able to locate the charger	Relieved to be able to find the charger is available at a wheelchair accessible parking space	Happy that she was able to make her appointment in time
					
Considerations					
How might we support drivers who are not able to access their first choice of charger?		How might we provide accessible chargers and information to those who need it?	How might we provide appropriate signage for EV chargers?	How can we continue to support the rollout of fully UDG-compliant public chargers?	

Ruairí Reynolds



The Rural Commuter

Background

Age	Location	Status	Income
35	Dunleer, Co. Louth	Single Dad, 1 daughter	High

Travel Patterns

How Often Does He Travel?

Daily.

When Does He Travel?

Usually at peak travel times in the morning and evening, and on the weekends to drive his daughter to games and social events.

Why Does He Travel?

Ruairí travels for a variety of reasons, primarily to go to work, escort kids to school, and access other services. Ruairí travels occasionally on the weekends for tourism, recreation and to visit friends and family. As the area he lives in is highly rural, public transport alternatives to most locations are limited, making the car a necessity.

Key Moments
Ruairí, the Rural Commuter

Motivation

Ruairí opted for an EV to benefit from lower charging costs as compared to filling his tank with petrol. He bought a second-hand EV and though the range of his battery isn't as large as that of new EVs, it tends to be enough to cover the short distances he typically drives, as he uses the commuter train services to cover most of the distance to work.

Usage

Ruairí rents a detached house without access to a dedicated private home charger – his landlord hasn't approved the installation of a charger. He also often forgets to charge his car in between juggling work and driving his daughter around town. He relies heavily on public chargers.

Concerns

Ruairi is concerned that there will be no chargers when he travels to destinations with his daughter, such as bringing her to training or visiting parks or beaches. On the occasions that he needs to travel farther from home, he worries that he will run out of charge and may not be able to find any enroute charge points.

Support

Access to destination charging is important for Ruairí. Enroute charging would also be useful, but Ruairí would like to do most of his charging at slower chargers while he's engaged in another activity so he can avoid the higher fees at the fast-charging stations along the motorways.

Customer Journey
The Rural Commuter

Leaving in the Morning		Arriving to Work		On the Way Home	
Moments					
Today, Ruairí is commuting to work in Dublin. He needs to make it home by 5pm to bring his daughter to camogie training. He'd prefer to take the train in so that he can get some work done during the commute and leave work a bit earlier today.	Ruairí starts driving to the train station in Drogheda when he notices he forgot to charge his car for the last week. He's going to need to charge his car before he can drive home, pick up his daughter, bring her to training and still drive back home.	He gets to the train station parking lot but notices both charging spaces are taken. He's already running late for his train, so he doesn't have time to find another charger.	Ruairí is in meetings all day and doesn't have time to figure out a plan to top up the charge on his car.	Ruairí catches the train home in the afternoon and gets into his car to pick up his daughter, when he remembers he needed to top up his charge. He will have enough charge for now but is worried about getting back from the training pitch.	He remembers that the local GAA club has installed a charger on the grounds. He picks up his daughter, parks and helps out at the training session while the car charges.
Highs and Lows					
Stressed about managing all his commitments for the day	Frazzled he forgot to charge his car since he last used it	Anxious because there isn't an available charger and he doesn't have time to find an alternative	Apprehensive about charging later	Anxious about making it home after the training	Elated that there's a charger at the local pitch
					
Considerations					
How can we encourage a hierarchy of sustainable mobility, prioritising active travel and public transport modes over private car travel?	How might we provide additional alternatives to those who don't have access to home chargers in rural areas?	How might we support the integration of EV charging with alternative sustainable mobility options?	How might we share information about alternative charging options in local areas?	How might we support other users in finding public chargers off the main roadways?	How might we support destination facilities in rural areas to install EV chargers?

Mike Murphy



The HGV Driver

Background

Age	Location	Status	Income
52	Waterford	Married, 2 grown-up children	Medium

Travel Patterns

How Often Does He Travel?

Every day during the working week.

When Does He Travel?

Early in the morning to late afternoon, often starting at 4am and finishing at 2pm.

Why Does He Travel?

Mike drives a large truck for the logistics company he works for, delivering goods between ports and distribution centres across the country. Occasionally, he'll also deliver goods from the distribution centre to various retail outlets.

Key Moments
Mike, the HGV Driver

Motivation

Mike drives an HGV for work. His employer recently introduced some electric HGVs to the fleet with the support of the public ZEHDV-I scheme. Access to public, high-speed, reliable chargers is paramount for Mike, as he must stick to his delivery schedules.

Usage

Mike drives most days to make deliveries across the country, with key points predominately just off the motorway network. He is often under time pressure. While the depot has chargers to recharge the HGVs when they are not in use, on longer working days, Mike needs to top up his HGV at public enroute chargers or at distribution centres.

Concerns

Mike is concerned that if he needs to charge enroute he will be unable to find a public charger suitable for the HGV. It is also important for Mike to be able to meet his deadlines, but uncertainty around charging can disrupt his schedule. Particularly, he worries about what to do if there is another HGV occupying the charger he was planning to use while taking a mandatory break – multiple HGV drivers tend to congregate at the same locations since they tend to be the most convenient points along the delivery routes. He worries the wait time will impact his ability to meet his deadlines.

Support

Mike requires high-powered charging stations to be co-located with rest areas offering essential amenities such as restrooms and food and beverage options. On long journeys, it's critical for him to make the most of his mandatory breaks. He prefers the ability to reserve a charger in advance to ensure availability along his planned route. However, since he cannot move his vehicle during the mandated rest period – even if charging is completed early – the charging speed must align closely with the duration of the break. Mike would also like to see clearer regulations that explicitly support charging during rest breaks.

Customer Journey
The HGV Driver

Leaving in the Morning		Arriving to Work		On the Way Home
Moments				
Mike starts his day early. He collects his lorry from the HGV depot outside of Waterford. Due to limited chargers, it was only partially charged overnight, but always has been enough to get him to his first stop.	After heading to the port to collect his load, he finds out he is driving to Galway this morning. He is under a tight deadline, and only has 5 hours to get there, with a stop at a distribution centre outside of the Shannon airport.	He gets to the distribution centre where he delivers the load and picks up several more shipments. He plugs into the commercial charger on-site, which the logistics company has a contract with. While the truck charges, Mike completes paperwork and takes a late breakfast break.	He gets back on to the motorway and manages to make his delivery in Galway on time. Leaving early and avoiding rush hour makes all the difference.	He leaves the lorry in the depot in Galway to charge overnight. He logs the trip data. He is staying in the city, so he'll come back and collect it in the morning to make another trip home tomorrow.
Highs and Lows				
Annoyed the vehicle isn't fully charged	Anxious to get on the road early	Relieved the charger was available	Confident he'll finish his journey on time	Happy to stop driving for the day
				
Considerations				
How might we support access to charging infrastructure for HDVs to align with driving shifts?	How might we accelerate the rollout of HDV charging infrastructure at key locations?	How might we facilitate fleet planning and certainty around charging access to avoid unnecessary delays?	How might we share information about alternative charging options in local areas?	How might we support other users in finding public chargers off the main roadways?

Tara Traynor



The Taxi Driver

Background

Age	Location	Status	Income
43	Tallaght, Dublin	Married, 3 kids	Medium

Travel Patterns

How Often Does She Travel?

On her working days (4–6 days a week).

When Does She Travel?

Mostly during the day but sometimes picks up a few night shifts on the weekends.

Why Does She Travel?

Tara provides a taxi service in an urban area, requiring constant, unpredictable movement between various locations. While she can opt to accept trips based on pickup locations that work for her, she finds when demand is low, she will accept trips to a range of pickup and drop-off locations. At the start of the working day, or during periods of less demand, Tara will re-base herself in locations she expects will have demand for taxi services, like the airport or by shopping centres.

Key Moments
Tara, the Taxi Driver

Motivation

Tara bought an EV as part of the eSPSV grant since her old vehicle kept breaking down and figured she could lower her operating costs, plus appeal to customers who value sustainability.

Usage

Tara likes to charge at home when she's not out on a shift, to take advantage of lower cost off-peak electricity rates and set off with a full charge when she leaves for work. During busy shifts, Tara may need to do a top-up charge using public chargers. She prefers to do this at a location where she can also use a restroom and have a meal break.

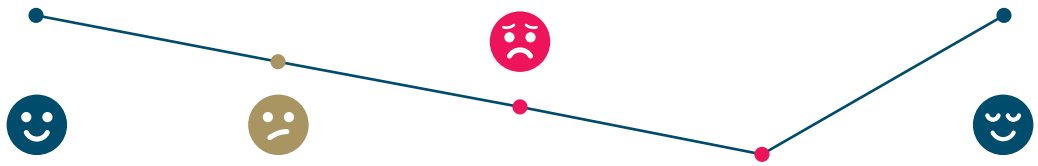
Concerns

She is worried about the availability of fast and high-powered charging stations – while she prefers to take a break in higher-demand areas to increase her chances of picking up a ride request after her break, there also tends to be more competition for the chargers here. Tara cannot afford to use a slow charger, as this will mean she will be off the road during her shift for too long. On the occasions she does a night shift, safety around the charging station is really important to her.

Support

Tara needs easy access and safe access to fast chargers, which will enable her to top up mid-shift when needed. She had to pay to install her own home charger, which even with the SEAI grant is an extra expense she had to pay out of pocket on top of the higher cost of buying the vehicle.

Customer Journey
The Taxi Driver

Planning	The First Shift – Early Evening			The Second Shift – Coming Home
Moments				
It's Saturday afternoon and Tara is on her way to take her first booking of the late afternoon. People rely on her taxi service to go out at night and to get home. She expects multiple shorter and longer trips ahead: on a typical night she could be driving over 200 km between the various pickup and drop-off points across the city. She's never quite sure what distances she'll need to drive, so she always makes sure to fully charge her car using her home charger in her driveway before heading out.	It's 6 pm, and she starts her evening off in Tallaght. Firstly, she heads to Sandyford where she has a prebooking for a trip to the airport. After picking up new passengers at the airport she heads back into the city centre. It's a big night out in Dublin, so Tara has multiple trips to do between the city centre and the surrounding areas. If she needs to charge her vehicle in-between, she can't afford to lose more than 10 minutes.	It's just past 10 pm, the time when there is a momentary lull. She's been driving for almost 4.5 hours and needs to take a break. She also desperately needs to recharge her car. She looks for a fast charger in a safe, well-lit spot near a fast-food restaurant, so she can eat and use the restroom.	She finds a charger in a well-lit, busy area, but the charger is still occupied by an EV that's finished its charge. She looks around for another available charger and after 15 minutes finds one. She takes a food and restroom break while her car charges.	After her 45-minute break, she's managed to recharge her car enough to pick up a few more requests over the next three hours. She completes multiple trip requests between the suburbs and inner-city area. After all the trips, she manages to get home at 2 am. She plugs in her car in her home charger to let it charge overnight.
Highs and Lows				
Prepared for the night ahead	Anxious about finding a fast charger available if she does need a quick top-up	Worried about finding a safe place to charge her car while taking a much-needed break	Frustrated that she wasted time because the fast charger is occupied by a vehicle that isn't charging	Relieved she's been able to complete all her trips
				
Considerations				
How can we encourage more taxi drivers to install home chargers if there are no other alternatives in the local area?	How might we ensure that enough chargers are available in busy areas, so that taxi drivers don't compete with other charger users?	How might we ensure that charging facilities feel safe at all hours and users can easily locate them?	How might we ensure that public parking spaces with charging access are only occupied by actively charging vehicles?	

The Jacksons



The Tourist Family

Background

Location	Status	Income
Portland, Oregon	Married, 2 kids	Medium

Travel Patterns

How Often Do They Travel?

They drive every day during their trip.

When Do They Travel?

Throughout the day but mostly in the morning.

Why Do They Travel?

The Jacksons require a large rental EV to travel around Ireland and visit various destinations during their holiday. With the car, they can remain flexible and determine their own schedule and itinerary. They can access more remote destinations that would be more difficult to reach with public transport or costly to access with an organised tour.

Key Moments
The Jacksons, the Tourist Family

Motivation

John and his wife Janet are very conscious of the environment and the impact they have. However, having two small kids can sometimes make it difficult to choose the most sustainable option. Cost and convenience now must come first.

Usage

Driving around the Wild Atlantic Way for 10 days. They are going to drive along different scenic routes and see villages, natural wonders and historic sites along the way.

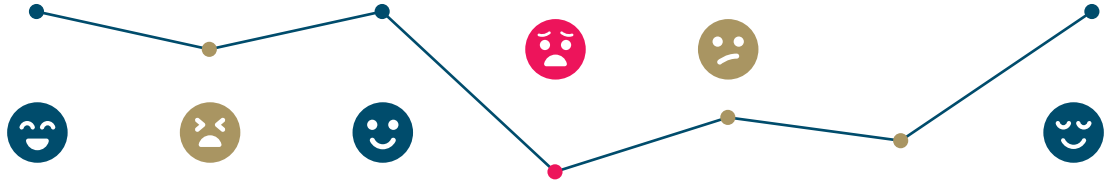
Concerns

They aren't too familiar with the system here, so they are worried about not being able to find a charger and easily knowing how to use chargers from different providers. They don't want the need to charge the car to throw them off their tight schedule.

Support

The Jackson Family needs a convenient way to find out where different chargers are along their planned routes, both before coming to Ireland and while in the country and how to pay for charging. They'd prefer to find hotels with chargers available, but this isn't always possible. Due to the lack of information around reliable charging along their preferred route, they had to replan and remove some of their original stops that were farther afield to avoid the risk of running out of charge.

Customer Journey
The Tourist Family

Planning			The Journey	Charging		
Moments						
The family wants to rent an EV since they hope it will save them in fuel costs and it has automatic transmission. The family looks online to figure out the best routes, as well as the most convenient places to charge along the Wild Atlantic Way.	When booking the hotels along the route, the family prefers to book hotels with overnight charging, and searches online for these.	For longer legs of their journey, the family maps out the distance they plan on driving, and where they might need to stop to charge. They look up the services and facilities available at the charging points.	The family are driving the longest part of their trip today, from Clare to Kerry. There wasn't an available charging space in the hotel, so they decide to make a stop on the way to charge.	They look online to see what chargers are available along their route and at a location they were interested in stopping in for a little longer. They have enough charge to get to their next destination – a scenic coastal park adjacent to a village.	The family look for a charger and find one available from a provider they haven't seen before. As fairly new EV users, it takes them some time to navigate a new set of instructions for getting started.	They park their EV for three hours while it charges, and the family enjoys an easy walk and some refreshments at the café.
Highs and Lows						
Glad they could find an EV to rent within their budget	Dissatisfied with the limited hotels available with charging	Reassured that there seems to be charging along their route	Disappointed that the charger they wanted to use wasn't available	Anxious about if the charger will be available to use when they get there	Frustrated about time lost trying to figure out another format of instructions	Relieved that there was a convenient alternative
						
Considerations						
How might we help tourists who are coming to Ireland to prepare for their journey so that it is as seamless as possible?	How might we best support hotels and local communities to install chargers in areas where there is an influx of tourists only during busy seasons?	How might we provide information to reliably support seamless journey planning and charging stops?	How might we best support users when there isn't charging available at their destination?	How might we assist users to adapt their travel plans based on their EV charging needs?	How might we support unfamiliar, new users to use different charging stations?	How might we facilitate charger installation nearby seasonal amenities and attractions?

Ronan Reilly



The Commercial Van Driver

Background

Age	Location	Status	Income
42	Thomastown, Co. Kilkenny	Married, 2 young daughters	Medium

Travel Patterns

How Often Does He Travel?

Every day during the working week.

When Does He Travel?

Throughout the day but normally early morning and afternoons to accommodate catering orders.

Why Does He Travel?

As the owner-driver of a small organic catering company, Ronan is dependent on the van to access and provide catering services at various locations in nearby counties. Locations and events can vary widely, ranging from weddings for 300+ guests at manors in the countryside to smaller catering events at small community functions in towns. Ronan needs to transport food supplies, cooking equipment and other equipment which can increase payload.

Key Moments
Ronan, the Commercial Van Driver

Motivation

Ronan drives a commercial van every day for work. He wants to reduce operating and maintenance costs without disrupting tight schedules. He is interested in future-proofing his fleet to attract sustainability-conscious clients. While charging, Ronan would like to be able to take a break, rest and eat while he tops up the charge on his van.

Usage

Ronan's workdays are highly variable. He drives most days to cater events both locally and in neighbouring counties. During the week he may cater small events and makes deliveries to local cafes. On weekends, he will do larger events, like weddings and festivals. His van charges overnight at home most days to keep the battery full and on long trips for larger events he uses enroute or destination charging to top up his charge.

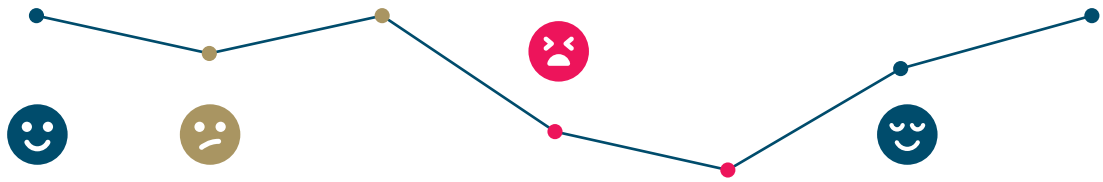
Concerns

Ronan needs to transport food supplies, cooking equipment and other equipment which can increase his payload. He worries about range limitations with a full load in his van. Additionally, when he has to charge enroute there are limited public chargers that accommodate larger commercial vans.

Support

As a small business owner, Ronan needs predictable energy costs and maintenance savings to justify the upfront purchase cost of an EV. He is interested in smart charging to ensure he is minimising his operating costs. Ronan also relies on accessible enroute and destination charging that can accommodate his van when he needs to top up while working.

Customer Journey
The Commercial Van Driver

Planning		Arriving to the wedding		During the wedding	The way home	
Moments						
Ronan is catering a medium-sized wedding in a garden estate in Wicklow. He needs to meet the catering staff at the venue by mid-morning and drive the food over. He packs up the large van with the food, tables and a tent.	The drive is just over 250km roundtrip which is close to the maximum distance he would drive without needing to charge during the journey, but Ronan is worried that the unusually heavy load of platters and the hilly terrain might drain his battery.	Ronan arrives at the estate with less charge than he had anticipated due to his heavier load. After unloading, he searches for the public charger the venue staff informed him was on the premises.	Ronan locates a slow charger, but his van is too large to fit within the remaining charging space, with cars parked on either side. He parks elsewhere for the time being.	Ronan occasionally goes back to check if the parking space adjacent to the charger has opened up so that he can fit his vehicle in but doesn't have any luck. He decides to look up a fast charger on his way home.	After loading up the van after the event, Ronan heads towards home. He takes a slight detour off the motorway to use a fast charger. One of the chargers is available. It's more expensive than he hoped, but he's tired and wants to get back home as soon as he can.	Ronan drives home with a good amount of charge. He pulls into his driveway and plugs in his van to charge overnight before the next event tomorrow.
Highs and Lows						
Ready for the day ahead	Concerned about a reduced range with a full van load	Cautiously optimistic a charger will be available at the venue	Frustrated that the charging space is too small to accommodate a van	Exasperated from checking if the adjacent parking space has opened to create more room	Relieved there is a charger available for him	Glad overnight charging is reliably available
						
Considerations						
	How might we mitigate concerns around range anxiety for larger vehicles?	How might we provide signage to help users readily locate public chargers on private premises?	How might we ensure there are more accessible charging bays for large vans where they need them?	How might we provide real-time information on the availability of chargers?	How might we provide better real-time information on the cost of chargers?	

Johanna Jennings



The Coach Fleet Operator

Background

Age	Location	Enterprise Size
48	Killarney, Co. Kerry	Medium sized fleet (approximately 12 midi-buses)

Travel Patterns

How Often Are Services Offered?

Daily.

When Are Services Offered?

Tours are generally offered during the daytime.

Why Are Services Offered?

Johanna's fleet offers day-long coach tours to tourist destinations across Munster, such as the Ring of Kerry, Adare Castle and Blarney Castle, at times covering up to 200km per day. These tours often involve relatively lengthy stops (about 1 to 2 hours per site).

Key Moments
Joanna, the Bus Fleet Operator

Motivation

Johanna manages a fleet of 25-seater midi-buses for a tour operator in Kerry. She wants to reduce the total cost of ownership when purchasing new buses and to ensure her fleet remains attractive for climate-conscious tourists. She needs to keep any disruptions to daily operations to a minimum when introducing EVs.

Usage

Johanna has some charging installed at the depot, but not enough that there is a dedicated charger available for each bus. Occasionally, she will need to plan a charging stop along the route, ideally at one of the planned destinations to charge the bus.

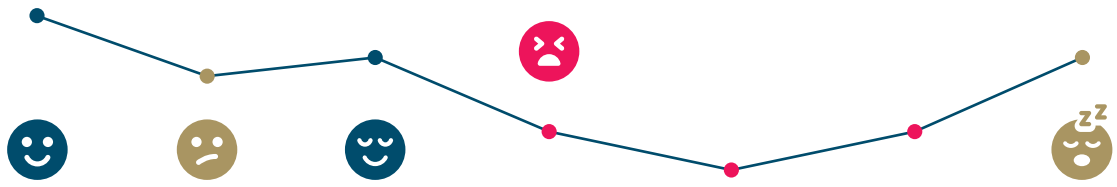
Concerns

Johanna is worried that introducing electric buses given the charging constraints at the depot can negatively affect the fleet's ability to be fully in use during peak periods. She needs to know that there are suitable chargers at destinations along the planned route that the buses can use if needed to top-up.

Support

The upfront costs of installing high-powered charging infrastructure can be significant, but also sometimes not possible given grid constraints. If a charge top up is needed along the way, Johanna needs her fleet to have access to fast or high-powered charging at their destinations.

Customer Journey
The Bus Fleet Operator

Preparing the Fleet			During the Outing		Winding Down for the Day	
Moments						
It's peak tourist season and Johanna needs to make sure all the midi-buses are ready to go for the day tours today. She heads to work in the morning to check the fleet management software on her computer to check if all the midi-buses needed for the day have reached sufficient charge.	Due to limited chargers, some of the midi-buses were only partially charged overnight.	She assigns buses to certain routes based on their charge level. She assigns one of the buses that is only 60% charged to a shorter route that she knows is within its driving range.	Midday, the driver of the shorter route calls to inform Johanna of an unexpected road closure. He tells her he will likely need to charge the midi-bus at some point during the trip.	Johanna is able to find a suitable fast charge point along the route. In one of the towns the group is stopping for lunch and asks the driver to charge there. Finding a large enough parking space and waiting for the midi-bus to sufficiently charge adds a 30-minute delay onto the original departure time.	The midi-bus arrives back in the depot, 30 minutes later than anticipated. This bus was scheduled to charge first, but its space is now occupied by another bus. Johanna needs to shuffle around her charging schedule to accommodate this change.	Once Johanna is satisfied that all midi-buses will be ready for tomorrow, she heads home.
Highs and Lows						
Feeling organised for the busy day ahead	Frustrated by the lack of sufficient charge points in her depot	Relieved that some of the routes don't require a full charge	Exasperated by unforeseeable events' impact on the buses' range	Worried that the delay will lead to customer dissatisfaction	Frustrated that overtime will need to be paid to the driver	Tired after reshuffling her fleet charging plan
						
Considerations						
	How might we support companies to install charge points for HDVs / buses at their depots?		How can we ensure HDVs and electric buses have access to public chargers at key locations?	How might we ensure there are accessible charging bays for large vehicles where they need them?		



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