



Northern Ireland
Assembly

Committee for Infrastructure

Report on Decarbonising Northern Ireland's Road Transport: Report of Evidence

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Assembly

Contents

Powers and Membership	v
Executive Summary	1
1 Background	4
1.1 Transport decarbonisation plan	7
1.2 The Inquiry	8
1.2 This report	8
2 Northern Ireland's pathway to a carbon neutral transport system	9
2.1 Car dependency	9
2.1.1 Modal Shift	10
2.1.2 Transport decarbonisation policy	12
2.2 Uptake of ultra-low emission vehicles (ULEV)	14
2.3 Used Cars	17
2.3 Infrastructure	19
3 Barriers to ULEV adoption	21
3.1 Charging infrastructure	21
3.1.1 Funding	24
4 Fleet managers	27
4.1 Uptake of EV	28
4.2 Barriers to uptake	29
4.2.1 Taxi Sector	30
4.2.2 Freight/Logistics sector	30

Links to Appendices

Printable version of Report
Minutes of Proceedings
Minutes of Evidence
Written submissions
Research Papers
Other Documents

Powers and Membership

Powers

The Committee for Infrastructure is a Statutory Departmental Committee established in accordance with paragraphs 8 and 9 of Strand One of the Belfast Agreement and under Assembly Standing Order No 48. The Committee has a scrutiny, policy development and consultation role with respect to the Department of Infrastructure and has a role in the initiation of legislation. The Committee has 11 members, including a Chairperson and Deputy Chairperson, and a quorum of 5.

The Committee has power to:

- consider and advise on Departmental budgets and Annual Plans in the context of the overall budget allocation;
- approve relevant secondary legislation and take the Committee Stage of relevant primary legislation;
- call for persons and papers;
- initiate enquiries and make reports; and
- consider and advise on matters brought to the Committee by the Minister of Infrastructure.

Membership

The Committee has 9 members, including a Chairperson and Deputy Chairperson, and a quorum of five members. The membership of the Committee is as follows

- Mr Johnathan Buckley MLA (Chairperson)¹
- Mr David Hilditch MLA (Deputy Chairperson)

¹ With effect from 14 June 2021 Mr Johnathan Buckley replaced Ms Michelle McIlveen as Chairperson

- Mr Roy Beggs MLA
- Mr Cathal Boylan MLA
- Mr Pádraig Delargy MLA²
- Mrs Dolores Kelly MLA
- Ms Liz Kimmins MLA
- Mr Andrew Muir MLA
- Mr George Robinson MLA³

² With effect from 27 September 2021 Mr Pádraig Delargy replaced Ms Martine Anderson

³ With effect from 21 June 2021 Mr George Robinson replaced Mr Keith Buchanan

Executive Summary

At its meeting on 3 March 2021, the Committee for Infrastructure agreed to conduct an inquiry looking at the ambition to decarbonise road transport in Northern Ireland. Cars account for the majority of Greenhouse Gas (GHG) emissions and, as such, the Committee is interested in Northern Ireland's readiness to meet the Government's plans to prohibit the sale of new petrol and diesel cars from 2030 and plug-in hybrids from 2035.

The Committee agreed that the Terms of Reference for the Inquiry would be:

To explore the future pathway to decarbonising road transport in Northern Ireland, by:

- *Identifying Northern Ireland's current transport policy for the transition to a carbon neutral system, what can be improved and what can be learned from elsewhere;*
- *Identifying potential barriers to Ultra-low Emission Vehicles (ULEV) adoption; and*
- *Exploring the role of public transport, walking, cycling and reduced demand for travel in decarbonising road transport.*

To evidence the Terms of Reference the Committee agreed to conduct an online survey to gather the views of the public. In addition, the Committee sought the views of stakeholders involved in road transport such as public transport operators, road haulage operators and public sector fleet managers and the 11 Councils and issued a Call for Evidence on their views on the decarbonisation of road transport.

The Committee also engaged the Northern Ireland Assembly Research and Information Service to provide further evidence by way of a series of research

papers and took oral evidence from the Department and representatives of Electric Vehicle owners.

This report brings together the three main pieces of evidence of the Survey, Call for Evidence and research findings. It provides an analysis of the evidence and the Infrastructure Committee's conclusions and recommendations. The main findings are:

Finding 1 (page 11)

While large infrastructure projects, such as expanding the railway and Bus Rapid Transport (BRT) networks will require significant investment and have long lead in times, short-term targeted investment on the existing network, enhancements to active travel infrastructure and, as Translink suggests, a greater focus on behavioural change programmes can deliver more immediate impacts.

The current Regional Transportation Strategy is outdated and needs to be replaced by a green transport policy that reflects the aim of a carbon neutral transport system in Northern Ireland.

The Committee for Infrastructure recommends that Department for Infrastructure Regional Transportation Strategy, policies and investment plans are updated and enhanced with a clear focus on how they will contribute to net zero ambitions.

Finding 2 (page 13)

It is clear that while a great deal of evidence has been or is being gathered with regards to bringing forward a transport decarbonisation policy and associated plans such as a charging infrastructure plan, finalisation of these could take

some time, particularly given the amount of engagement required with stakeholders.

The DfI should lay out a clear timeline as to when these policies and plans are expected to be in place. In evidence to the Committee officials noted that they had not been told that some of the funding programmes run by the Office for Zero Emission Vehicles (OZEV) were coming to an end. However, the UK Government is only committing to these schemes until the end of 2022, so time is of the essence.

Publication and implementation of the plans will need to be swift and given the Department has acknowledged a lack of expertise, the question has to be asked as to whether the Department has the resources in place to deliver these.

The Committee for Infrastructure recommends that the Department establishes a new focus on transport decarbonisation and ensures the necessary personnel and resources are in place to develop and implement the required plans. A clear timeline should be identified as to when relevant policies and plans are expected to be in place.

Finding 3 (page 18)

The House of Commons (HOC) Transport Select Committee (TSC) has highlighted the important role a healthy used electric vehicle market will have in widening access to EV. There is also a growing recognition of this fact is

some of the more advanced EV markets in Europe, whether through providing grants or loans to support market entry.

The Committee for Infrastructure recommends that the Executive should bring forward measures to support and develop the used electric vehicle market in Northern Ireland.

Finding 4 (page 22)

It is acknowledged that the DfI has commissioned research that will define what charging infrastructure is needed in NI, including where this should be located and what type of charging points should be used, while there is also a proposal for an 'EV infrastructure plan' in the energy strategy options consultation. It is important that engagement with EV owners takes place to inform this research.

The outcome from the research and the consultation should be processed in a timely fashion and a plan brought forward addressing the condition of the current network and the extent of the required expansion up to 2030. This will be critical both to ensure an operational network for existing EV adopters and to allay doubts held by prospective new EV users.

The Committee for Infrastructure recommends that the Department for Infrastructure engages immediately with EV owners to ensure their views and experience are built into upgraded Electric Vehicle Charging network.

Finding 5 (page 25)

The principle of maximising drawdown from OZEV run funding schemes is sound. However, it is clear there has been a failure to do this due to confusion over what public body or bodies should lead on this issue and questions around knowledge/experience. It may be that the local highway authority, namely the Department for Infrastructure, would be best placed to access this funding rather than responsibility being passed to council officials with little

experience in this area. However, engagement with councils should continue and a way forward agreed.

It is important to note that the window for drawing down funds from the ORCS is limited. Therefore, DfI should re-engage with the OZEV, EST and councils to ensure the unique circumstances in NI are considered.

Evidence from advanced EV markets shows that early public investment in infrastructure is necessary to stimulate EV uptake. It is only when this is at a sufficient level that a shift to private sector operation with decreasing government support will occur. DfI should engage with the ESB and other partners to agree a funding package that will bring the NI charging network to suitable condition.

The Committee for Infrastructure recommends that the Department for Infrastructure engages with current and potential energy providers and other partners particularly local councils to develop a charging infrastructure strategy and agree a plan to fund it.

The Department for Infrastructure should establish itself as the lead body for identifying and supporting available funding streams for charging infrastructure.

Finding 6 (page 28)

The public sector must take the lead and commit to decarbonising their own fleet. A commitment should be made that, where possible and practical, zero emission vehicles are the first choice.

The Committee for Infrastructure recommends that the Northern Ireland Executive makes a commitment that, where possible and practical, zero emission vehicles are the first choice.

1 Background

The **Climate Change Act 2008 (2050 Target Amendment) Order 2019** (the order) came into force on 27 June 2019. This order introduced a target for at least a 100% reduction of greenhouse gas emissions (compared to 1990 levels) in the UK by 2050. This is otherwise known as a net zero target because some emissions can remain if they are offset by removal from the atmosphere and/or by trading in carbon units.⁴

The order applies to the whole of the UK. However, Scotland (net zero by 2045) and Wales (95% emissions reduction by 2050) have their own targets which reflect local circumstances.⁵ There are currently two Climate Change Bills progressing the Northern Ireland Assembly which will establish NI's contribution to the UK's net zero target:

- The **Climate Change Bill** aims for a 100% reduction of GHG emissions i.e. net-zero by 2045.⁶
- The **Climate Change (No.2) Bill** aims for an 82% reduction in emissions by 2050.⁷

1.1 Transport decarbonisation plan

The UK Government published its **transport decarbonisation plan** (TDP) in July 2021 to outline changes it will introduce within the transport sector to achieve net zero. Road transport is a significant source of GHG emissions. It is therefore featured heavily in the TDP.

Before the TDP was published the UK Government had already committed to end the sale of petrol and diesel cars and vans by 2030⁸, and hybrids by 2035. The TDP has added to this by proposing to phase out the sale of new diesel and petrol heavy goods vehicles (HGVs) by 2040, subject to **consultation** (The consultation closed on 3 September 2021). The Government has also indicated it will consult on a phase out date for the sale of new non-zero emission coaches.⁹

The UK Government is currently consulting on the proposed regulatory framework that will facilitate the phase-out commitments. **The Green Paper on a New Road Vehicle CO₂ Emissions Regulatory Framework for the United Kingdom** was published for consultation in July 2021, this closes on 22 September 2021. The consultation puts forward two approaches to regulating for the ban on petrol and diesel vehicles:

⁴ House of Commons Library, *Net zero in the UK*, December 2019

⁵ Committee on Climate Change, *Net Zero - The UK's contribution to stopping global warming*, May 2019

⁶ Climate Change Bill, *Explanatory and Financial Memorandum*, March 2021

⁷ Climate Change (No. 2) Bill, *Explanatory and Financial Memorandum*, July 2021

⁸ UK Government, *Government takes historic step towards net-zero with end of sale of new petrol and diesel cars by 2030*, November 2020

⁹ Department for Transport, *Decarbonising Transport: A Better, Greener Britain*, July 2021

- continue with the current framework (based on EU regulations) with more ambitious efficiency targets;
- or introduce a UK zero emission vehicle (ZEV) mandate alongside CO2 regulations.

The UK Government stated that a ZEV mandate combined with a CO2 emissions target is its preferred option.¹⁰ A ZEV mandate would require car manufacturers to sell an increasing proportion of ZEVs over the next decade, reaching 100% by 2030.¹¹ It is believed the ZEV mandate would stimulate the ZEV market and remove the need for Government intervention, such as the plugged in car grant (PiCG)¹²

1.2 The Inquiry

In response to the UK Government's transport decarbonisation proposals, in March 2021 the NI Assembly Infrastructure committee launched an ***Inquiry into Decarbonising Northern Ireland's Road Transport***. The Terms of Reference for the inquiry are:

To explore the future pathway to decarbonising road transport in Northern Ireland, by:

- Identifying Northern Ireland's current transport policy for the transition to a carbon neutral system, what can be improved and what can be learned from elsewhere;
- Identifying potential barriers to Ultra-Low Emission Vehicles (ULEV) adoption; and
- Exploring the role of public transport, walking, cycling and reduced demand for travel in decarbonising road transport.

The committee undertook and commissioned an extensive programme of evidence collection and research to inform this inquiry. The evidence base came from three main sources:

1. Desk based research that considered the policy proposals, factors in EV market development, infrastructure development and supply side factors facilitating a move to ZEV;
2. An online public survey to identify attitudes to, and experiences of EV in Northern Ireland; and
3. A call for evidence from stakeholders with a significant fleet management function. Including: government departments, councils, public transport operators and freight/logistics operators.

¹⁰ DfT, *The Green Paper on a New Road Vehicle CO2 Emissions Regulatory Framework for the United Kingdom*, July 2021 p.28

¹¹ House of Commons, *Zero Emission Vehicles*, Transport Committee, July 2021

¹² Ibid (*reference: 85 Q107* (Rachel Maclean MP))

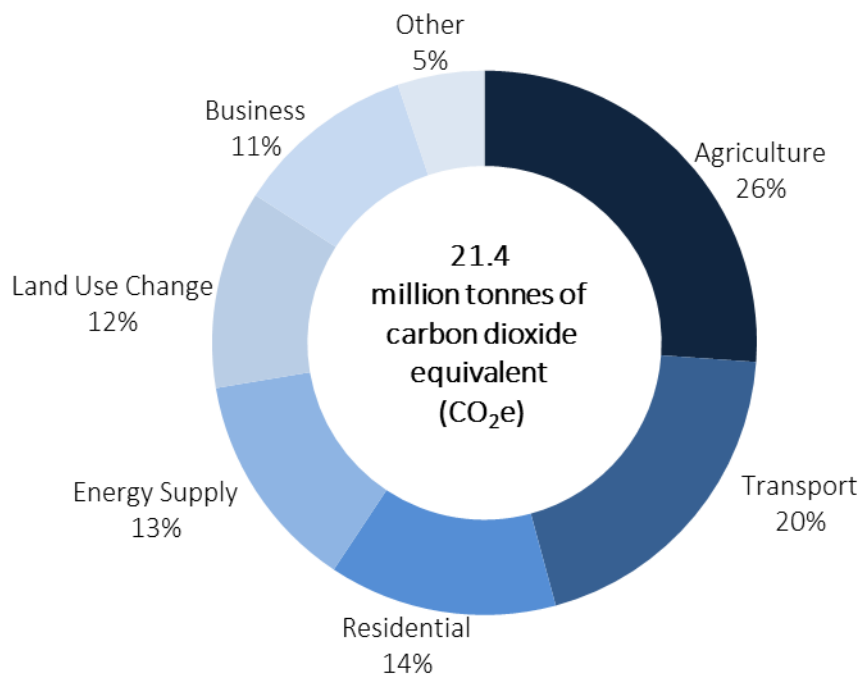
1.2 This report

This report brings together the three main pieces of evidence and provides analysis for the Infrastructure Committee to consider when drawing its conclusions and forming recommendations.

2 Northern Ireland's pathway to a carbon neutral transport system

In 2019, Northern Ireland's greenhouse gas emissions were estimated to be 21.4 million tonnes of carbon dioxide equivalent. The largest sectors in terms of emissions in 2019 was agriculture (26%) with transport second (20%). Most sectors have shown a decreasing trend since the base year (1990). However, overall transport emissions increased by 21.5% from the base year due to growth in demand for transport, despite improvements in efficiency of vehicles.¹³ The main source of emissions from this sector is the use of petrol and diesel in road transport.¹⁴

Figure 1: Greenhouse gas emissions by sector, Northern Ireland 2019



Source: *NISRA*

2.1 Car dependency

Travel Behaviour data, taken from the *Travel Survey for Northern Ireland (TSNI)*, provides an insight into the reasons transport emissions have increased. Northern

¹³ NISRA, *Northern Ireland Greenhouse Gas Emissions 2019*, July 2021

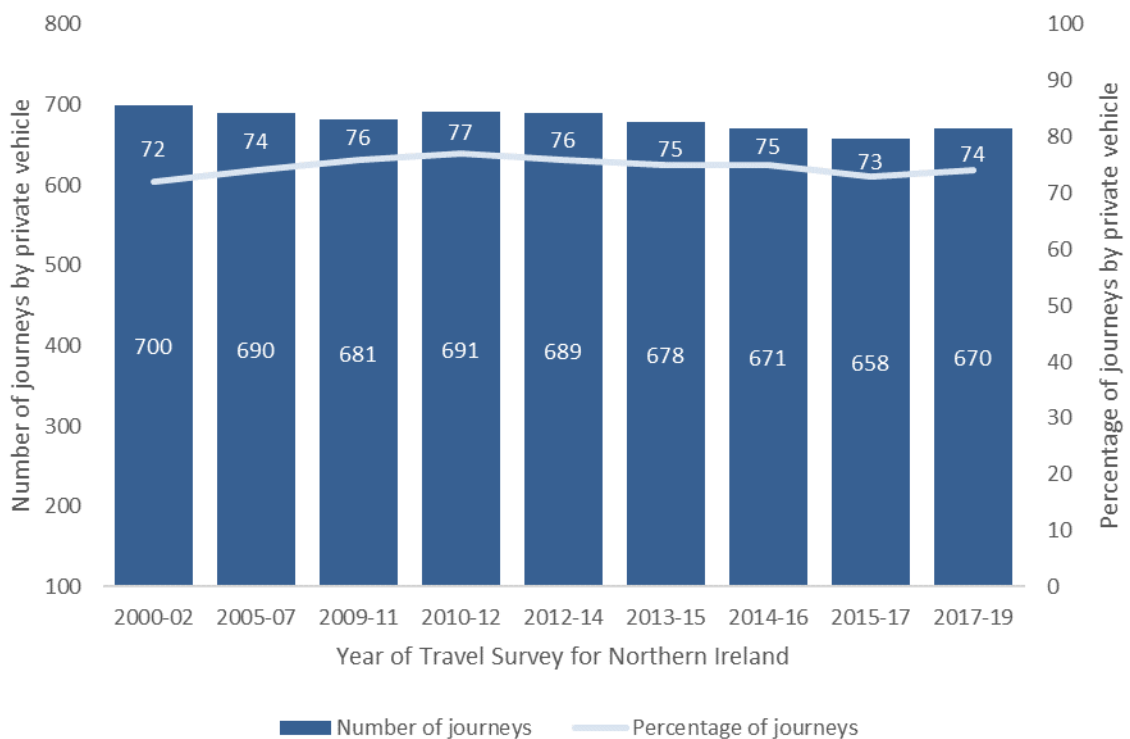
¹⁴ DBEIS, *2019 UK Greenhouse Gas Emissions, Final Figures*, February 2021

Ireland is a car dependent society, between 2017-19 car journeys made up the majority of all journeys taken and distance travelled.

- 71% of all journeys were by car during 2017-2019;
- On average every person travelled 6,130 miles per year in 2017-2019, 83% of the total distance travelled was by car;
- Walking accounted for 18% of journeys, Public transport made up 5% and 1% of all journeys in 2017-2019 were cycle rides.¹⁵

There has been little sign of travel behaviour changing in NI over the last twenty years. Data from the TSNi shows that over that period the proportion of journeys made in private vehicles has remained at around 75% with only slight fluctuations up or down.

Figure 2: Number of journeys made by car and as a percentage of total journeys



Source: *Travel Survey for Northern Ireland*

2.1.1 Modal Shift

Increasing the share of journeys made by public transport and active travel has been a long term policy objective. The Northern Ireland Audit Office (NIAO) examined the effectiveness of public transport in NI in 2015 against the public transport initiatives and targets outlined in the first Regional Transportation Strategy (2002).¹⁶ The report concluded modal shift had not been achieved, it was critical of the approach taken to

¹⁵ DfI, *Travel Survey for Northern Ireland In-depth Report 2017-2019*, July 2021

¹⁶ NI Audit Office, *DRD: the effectiveness of public transport in Northern Ireland*, April 2015.

bring about modal shift and recommended that a higher level of investment and innovation was required in order to stimulate modal shift.¹⁷ The NI Assembly's Public Accounts Committee echoed the call for investment and innovation and called for "*stronger vision and leadership*" to deliver modal shift.¹⁸

A criticism of the NIAO was the lack of balance between expenditure on roads and public transport and active travel between 2002-12. The RTS planned for a 62: 35: 2.5 split between roads, public transport and active travel expenditure, respectively. The actual split was 70: 28: 1.3. The NIAO concluded that this severely restricted the ability of the department to realise the policy aims set out in the RTS and its successor, the '**New Approach to Regional Transportation**'.¹⁹

Over the last four years the gap between public transport and roads expenditure has been reduced with the split between roads and public transport stable at around 66: 33 between 2017-18 and 2019-20. The gap between these two areas of expenditure and active travel has increased with its split averaging 0.7 over this period.

Table 1: Total expenditure on roads, public transport and active travel infrastructure^{20 21}

	Expenditure			Budget
	2017-18	2018-19	2019-20	2020-21
Roads	£271.1m	£339.4m	£345.9m	£313.1m
Public Transport	£132.9m	£166.4m	£163.7m	£213.5m
Active Travel	£3.2m	£4.2m	£3.5m	£6m

For the last five years, expenditure on active travel has ranged between £1.33 per head of population to £2.21. This is estimated to take a significant jump to £3.21 in 2020/21. If this planned expenditure is realised, it would see a split of 59: 40: 1.

Table 2: Active Travel Expenditure 2016/17 to 2020/21²²

Financial year	Capital Spend	Spend per head of population
2016/17	£2,528,964	£1.33
2017/18	£3,205,819	£1.69
2018/19	£4,194,100	£2.21
2019/20	£3,529,893	£1.86
2020/21	£6,000,000 (estimated)	£3.21

¹⁷ Ibid,

¹⁸ Public Account Committee, *Report on DRD: The Effectiveness of Public Transport in Northern Ireland*, June 2015.

¹⁹ NI Audit Office, *DRD: the effectiveness of public transport in Northern Ireland*, April 2015

²⁰ *AQW 5191/17-22*

²¹ *AQW 15013/17-22*

²² *AQW 15013/17-22*

The most notable investment in public transport since the NIAO report has been the Glider Service which has been operational since September 2018. This is a Bus Rapid Transit system (BRT) that operates between East and West Belfast through the City Centre, with a link to Titanic Quarter. The Glider largely replaced the Metro bus service on the Falls Road and Upper Newtownards Road corridors. According to the DfI, in its first year of operation there were “over two million Glider passenger journeys compared to previous (bus) journeys taken along the route – an increase of over 30% – reducing car journeys by 1.67 million”.²³

There is currently a public consultation on route options for BRT Phase 2 that will extend the BRT network to North and South Belfast, Lisburn and Castlereagh City Council and Antrim and Newtownabbey Borough Council areas. It is not mentioned in the consultation whether or not the vehicle used will be the same as that currently operating on the BRT 1 route. This is a diesel hybrid which according to the DfI is 40% more fuel efficient with “vastly reduced nitrogen oxides and particulate emissions”.

The success of the Glider demonstrates that investment in high quality infrastructure does deliver modal shift. This has been shown previously when upgrades to the railway network and investment in rolling stock during the first RTS period saw passenger journeys double. However, while these projects stand out, their reach is minimal given the limited nature of both networks.

In its Evidence to the committee, Translink called for transformational investment across Northern Ireland:

*Regions and cities with efficient, integrated, and accessible public transport systems reduce private car ownership and therefore can significantly reduce traffic congestion and greenhouse gas emissions. There must be greater focus on behavioural change programmes from Government, including a transformation in investment for bus and rail, better bus priority measures across all our major cities, continued roll out of Park & Ride and integration with cycle infrastructure.*²⁴

While large infrastructure projects, such as expanding the railway and BRT networks will require significant investment and have long lead in times, short-term targeted investment on the existing network, enhancements to active travel infrastructure and, as Translink suggests, a greater focus on behavioural change programmes can deliver more immediate impacts.

The current Regional Transportation Strategy is outdated and needs to be replaced by a green transport policy that reflects the aim of a carbon neutral transport system in Northern Ireland. This strategy must clearly map out how

²³ DfI, *Annual Report and Accounts*, October 2020

²⁴ Response 544. 20210415, Translink

modal shift to public transport and active travel will contribute to achieving this goal.

2.1.2 Transport decarbonisation policy

The Department for Transport (DfT) lists modal shift to public and active transport as the number one strategic priority in the TDP stating, “*public transport and active travel will be the natural first choice for our daily activities*”.²⁵ It will achieve this through providing:

- high quality road design, dedicated routes, and networks where people will feel safer and more confident walking and cycling for short journeys.
- A cohesive, integrated, and affordable net zero public transport network, designed for the needs of the passenger.

Any future transport decarbonisation plan for NI will be heavily influenced by the outcome of the forthcoming Energy Strategy for NI, led by the Department for the Economy (DfE). The Strategy will address a number of strategic energy issues in response to UK Government’s net-zero policy. The consultation ran from April-June 2021 and the final Energy Strategy is due to be published in November 2021.²⁶

As part of the process of developing the strategy, DfI led a working group comprised of a range of government, non-government and industry representatives, to identify the role of transport in achieving net zero. The Group completed an analysis of the relevant evidence raised by the Energy Strategy **call for evidence**. In its evidence to the committee DfI noted that the evidence showed

*“support for a travel hierarchy approach, which means, first, focusing on measures to reduce travel, then promoting active travel and public transport, and, finally, switching to low- and zero-emission vehicles”.*²⁷

The responses also highlighted the need to promote the use of low-emission public transport; the need to invest in walking and cycling infrastructure; the need to incentivise uptake of electric vehicles (EV); and the need to upgrade and expand the EV charge point infrastructure. They also pointed out that more work was required to incentivise the use of green hydrogen, biofuels and alternative fuels for heavy vehicles.

The working group used the information gathered from the call for evidence to develop a number of proposals for decarbonising transport which are set out in the energy strategy options paper. The proposals are:

²⁵ DfT, *Decarbonising Transport: A Better, Greener Britain*, July 2021

²⁶ DfE, *Energy Strategy Timeline*, accessed 8 September 2021

²⁷ Official Report, Decarbonisation of Road Transport in Northern Ireland: Department for Infrastructure, May 2021

- to develop a Northern Ireland specific transport decarbonisation strategy that takes full account of the UK Transport Decarbonisation Plan;
- to develop an EV Charging Infrastructure Plan, in partnership with key stakeholders from government, public, private and third sectors to develop the charging network in Northern Ireland;
- to run an EV communication campaign;
- that demonstrator projects of alternative vehicle fuels are trialled in Northern Ireland;
- to take steps to help consumers to reduce travel and move towards active travel and public transport.

The responses to these proposals will provide the basis on which NI's transport decarbonisation policy can be developed. In addition, in its evidence to the committee the DfI indicated it had commissioned four pieces of research on noting that "*...on many of those issues, the Department does not have expertise*".

- Active Travel and Modal Shift;
- The Electrification of Transport;
- Greening the Public Sector Fleet; and
- Alternative Fuels in the Transport Sector

It is clear that while a great deal of evidence has been or is being gathered with regards to bringing forward a transport decarbonisation policy and associated plans such as a charging infrastructure plan, finalisation of these could take some time, particularly given the amount of engagement required with stakeholders.

The DfI should lay out a clear timeline as to when these policies and plans are expected to be in place. In evidence to the committee officials noted that they had not been told that some of the funding programmes run by OZEV were coming to an end. However, the UK Government is only committing to these schemes until the end of 2022, so time is of the essence.

Publication and implementation of the plans will need to be swift and given the Department has acknowledged a lack of expertise, the question has to be asked as to whether the Department has the resources in place to deliver these. Should a new branch, dedicated to transport decarbonisation and built around experienced personnel be set up to deliver these proposed measures?

2.2 Uptake of ultra low emission vehicles (ULEV)

Uptake of ULEV in NI lags behind the rest of the UK. At the end of 2020 NI had the smallest ULEV fleet of the UK's main devolved regions (0.49%), behind Wales (0.52%) Scotland (1.04%) and England (1.43%).

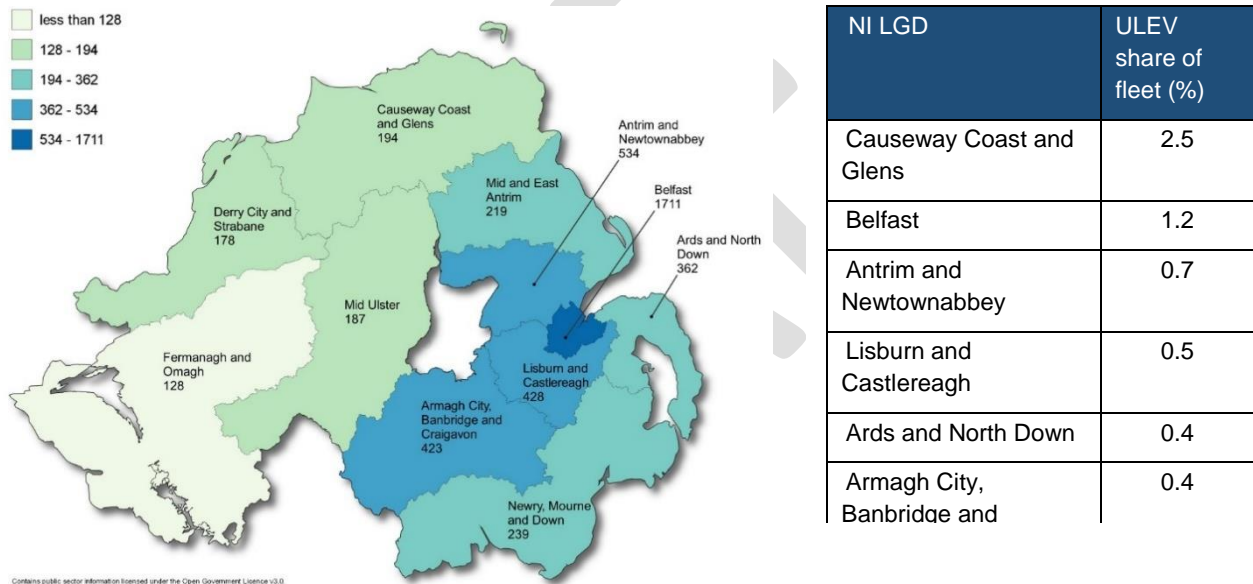
Table 3: Total cars and ULEV licensed in England and ULEV share of all cars at the end of 2020

	Total Cars	Total ULEV	ULEV share of total (%)
England	27,036,100	385,980	1.43
Scotland	2,519,800	26,189	1.04
Wales	1,579,200	8,163	0.52
NI	990,300	4,818	0.49

Source: DfT, Tables *VEH0132a* and *VEH0105*

The ULEV market has grown across NI over the last 10 years, albeit at slower rate than the rest of the UK but also at different rates with NI Local Government Districts. Map one show Belfast has the highest number of ULEV in NI. Causeway Coast and Glens had only the 8th highest number of ULEV in 2020 but it has the highest share of ULEV among licensed vehicles, 2.5% compared to 1.2% in Belfast which has the second highest share.²⁸

Map 1: Ultra low emission vehicles (ULEVs) licensed at the end of 2020 by NI LGD



Source: DfT, Tables *VEH0132a* and *VEH0105*

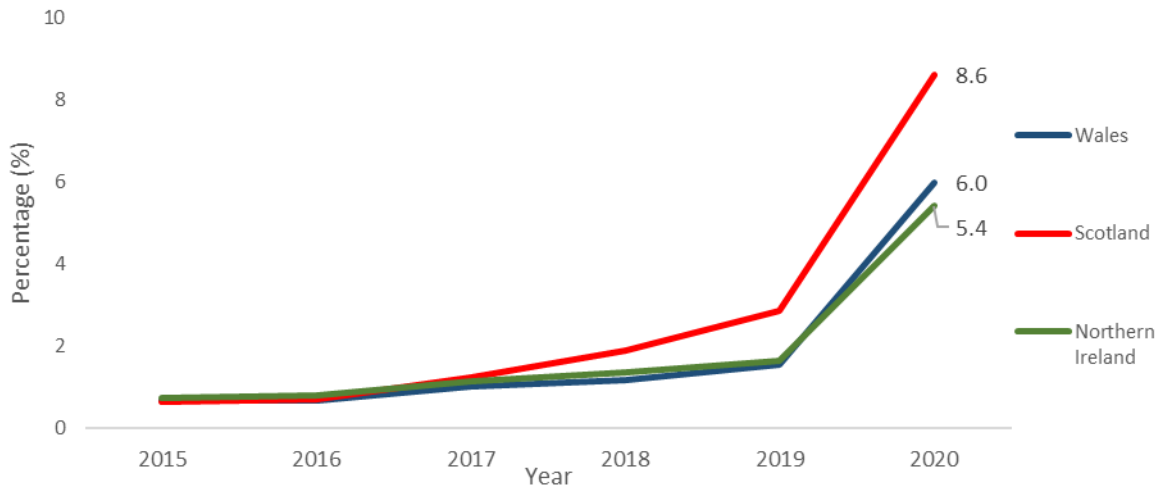
Among the three devolved regions, Scotland has the fastest growing ULEV market. In 2020 ULEVs had an 8.6% market share in Scotland, compared to 6% in Wales and NI 5.4% in NI.²⁹ Pandemic conditions did affect the car market in 2020 with sales down in each of the devolved regions: Wales -25%, Scotland -28% and Northern Ireland - 30%.³⁰ However, ULEV sales increased as a proportion of all sales across all regions.

Figure 3: Ultra low emission vehicles registered for the first time as a percentage all new vehicles in Wales, Scotland and NI, 2015-2020

²⁸ DfT, Tables *VEH0132a* and *VEH0105*

²⁹ DfT, Table *VEH0172: Ultra low emission vehicles registered for the first time by region: United Kingdom*, May 2021

³⁰ DfT, Table *VEH0204: Licensed cars, by region: Great Britain and United Kingdom*, May 2021



Source: DfT, VEH0172: *Ultra low emission vehicles registered for the first time by region: United Kingdom* and VEH0204: *Licensed cars, by region: Great Britain and United Kingdom*

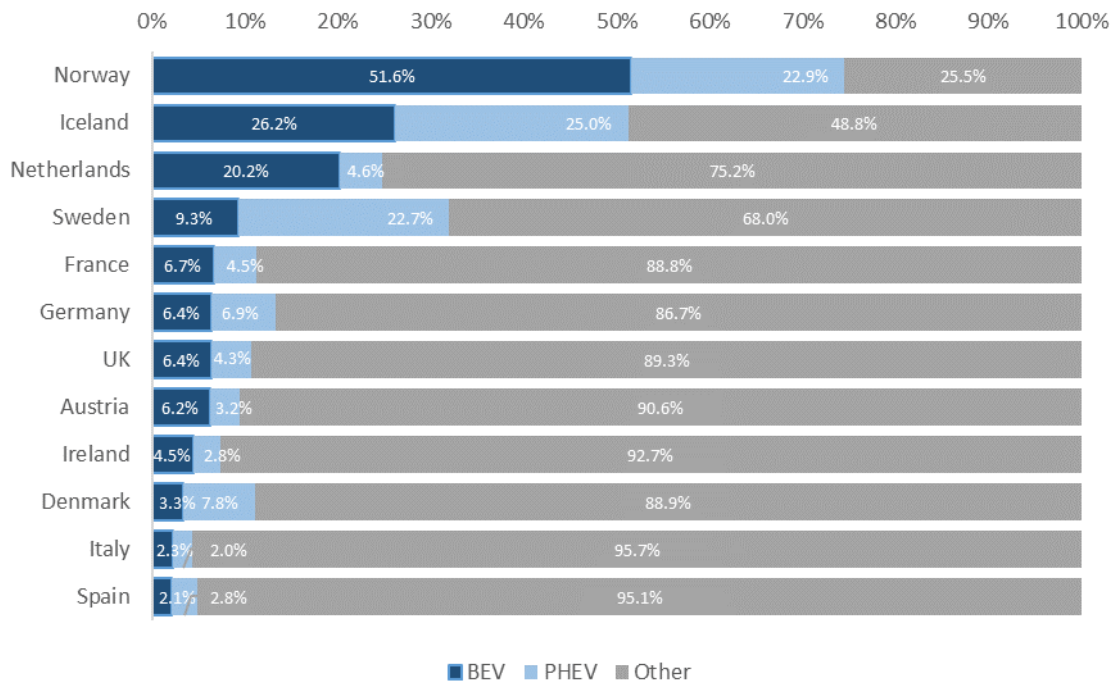
The research undertaken as part of this inquiry showed that the majority of electric passenger cars on European roads were concentrated in Germany, Norway, the United Kingdom, France, and the Netherlands with a combined share of 70% of Europe’s electric passenger car fleet.³¹

Most Governments tend to reflect on EV market share of new car registrations as a key metric in determining the success of EV policies. For example, Norway is recognised as having the most advanced EV market in Europe with BEV accounting for 52% of new car registrations in 2020, while a further 20% were PHEV. At the same time 16% of the total passenger car fleet was either a BEV or PHEV by the end of 2020.

There is a notable drop to the second and third largest EV fleets in Europe, Iceland and the Netherlands, where although BEV/PHEV sales are relatively high, compared to other countries, fleet share is low with EV making up a 6% and 3% share of the total fleet respectively. The fleet share across the UK is 1.38%, compared to 0.93% in ROI.

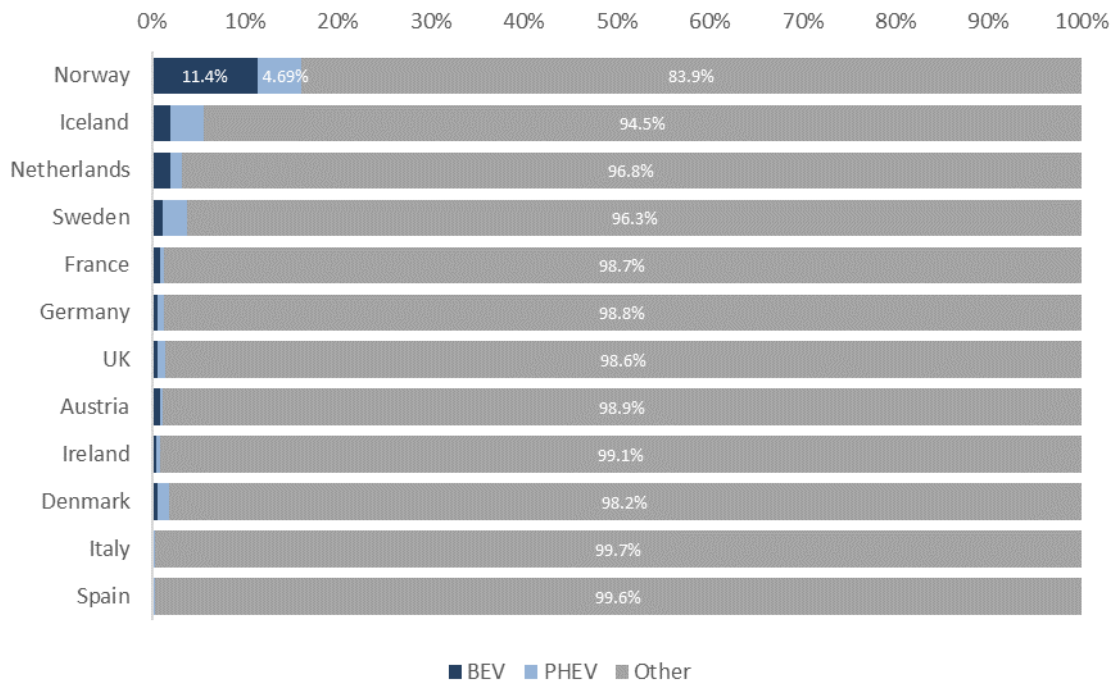
Figure 4: Market share of new BEV/PHEV versus other fuel types, selected countries 2020

³¹ European Alternative Fuels Observatory, *On the electrification path: Europe's progress towards clean transportation*, March 2021



Source: *European Alternative Fuel Observatory*

Figure 5. BEV/PHEV Share of total vehicle fleet versus other fuel types, selected countries 2020

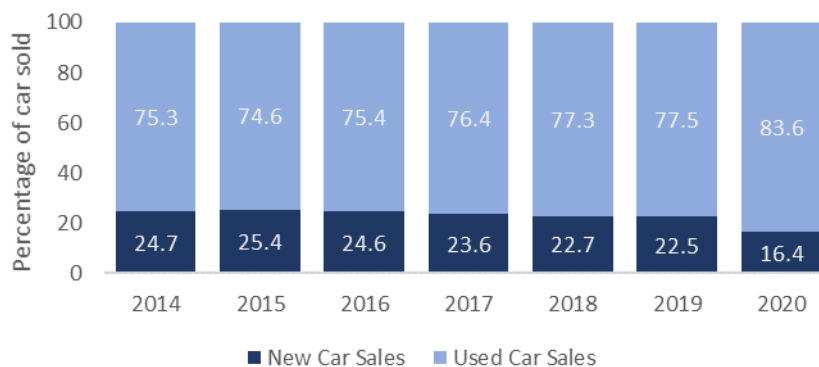


Source: *European Alternative Fuel Observatory*

2.3 Used Cars

Another reason why new car sales do not show the whole picture in terms of EV uptake is used car sales. In the UK, used car sales generally account for around three quarters of the total car sales market in the UK. For example, in 2019 there were 2.3 million (22%) new cars registered compared with 7.9 million (78%) used car transactions.³² Pandemic conditions brought about a drop in new car sales in 2020 with 1.32m units sold, a 43% decrease on 2019, while used car transactions also fell by 15%.³³

Figure 6: New car vs used car sales, UK 2014 - 2020



Source: DfT, *VE0253*; SMMT, *Used car sales: Q4 2020*

³² David Hirst, et al. *Electric Vehicles and Infrastructure*, House of Commons Library, June 2021

³³ SMMT, *Used car Sales: Q4 2020*, February 2021

According to The Society of Motor Manufacturers and Traders (SMMT), while used car sales fell in 2020, the market share for 'alternatively fuelled vehicles' (AFVs) increased. 144,225 used AFVs were sold during 2020, "*an increase of 5.2%, with their market share rising to 2.1%*". Used BEV sales increased by 29.7% on 2019 to 19,184 units (0.3%). The market for hybrids (HEVs) also rose, by 4.7%, while demand for plug-in hybrids (PHEVs) fell by -5.0%. Used diesel and petrol car transactions fell by -15.5% and -15.2% respectively, yet combined they still accounted for 6.6 million cars.³⁴

The House of Commons (HOC) Transport Select Committee (TSC) has stated that "*...a healthy used electric vehicle market is critical to ensuring that electric vehicles are not the sole preserve of people who can afford new models.*"³⁵

The TSC has noted that the UK Government's position is that current incentives to stimulate the sale of new EVs are sufficient to support the development of the second-hand EV market by increasing supply thereby driving down prices. However, it notes that electric vehicles that will be traded on the second-hand market in three to five years' time are likely to be more expensive to buy upfront than comparable ICE models.³⁶

The TSC has recommended to the UK Government that in order to drive mass consumer uptake of ZEVs, it "*...must ensure that the market facilitates the supply of affordable new and used electric vehicles*"³⁷ noting that in order to ensure that the Government achieves the targets set out in the Transport Decarbonisation Plan, it "*may need to intervene to support the second-hand market in electric vehicles until price parity with comparable ICE vehicles is reached*".³⁸

There are examples of incentives designed to stimulate the used EV market in other jurisdictions. For example:

- The Netherlands offers a grant of €2,000 for used BEVs (introduced 2020);³⁹
- France offers a €1,000 subsidy for the purchase of used BEVs (introduced 2021).⁴⁰
- Germany offers a €5,000 grant for BEV and €3,750 for PHEV.⁴¹

Scotland has had the Low Carbon Transport Loan (LCTL), an interest free loan for the purchase of BEV, in place since 2011/12. The loan is funded by Transport Scotland, an executive agent of the Scottish Government, and delivered by Energy Saving Trust

³⁴ SMMT, *Used car Sales: Q4 2020*, February 2021

³⁵ House of Commons, *Zero Emission Vehicles*, Transport Committee, July 2021

³⁶ *ibid*

³⁷ *ibid*

³⁸ *ibid*

³⁹ EAFO, *Netherlands Incentives*, accessed 23 July 2021

⁴⁰ EAFO, *France, incentives*, accessed 23 July 2021

⁴¹ EAFO, *Germany, incentives*, accessed 23 July 2021

(EST). In September 2020, the Low Carbon Transport Loan was extended to cover used BEV up to the value of £20,000, to be repaid over 5 years.⁴²

The House of Commons (HOC) Transport Select Committee (TSC) has highlighted the important role a healthy used electric vehicle market will have in widening access to EV. There is also a growing recognition of this fact in some of the more advanced EV markets in Europe, whether through providing grants or loans to support market entry. Work should be undertaken to explore the potential for support measures to be introduced in NI.

2.3 Infrastructure

As of 1 April 2021, there were 22,790 public electric vehicle charging devices available in the UK, of which 4,259 are rapid chargers⁴³.

There is uneven geographical distribution of charging devices within the UK. Some UK local authorities have bid for UK Government funding for charging devices, and others have not. Most of the provision of this infrastructure has been market-led, with individual charging networks and other businesses (such as hotels) choosing where to install devices.⁴⁴

London and Scotland have the highest level of charging provision per 100,000 of population, with 80 and 43 devices per 100,000 respectively. Almost twice as many public rapid charge points per head of population are available in Scotland compared with London, with 11 and 6.5 chargers per 100,000 of population respectively (map 2).⁴⁵

As of January 2021 NI had 320 public charging points, the lowest number of both standard (300) and rapid charging points (20) of any UK region, and represents a ratio of 17 and 1.1 per 100,000 respectively. The ratio of charging points per 100,000 is also the lowest of the UK regions. Map one shows the distribution of all charging points and rapid charging points across the eleven LGDs per 100,000 (map 3).⁴⁶

the European Commission recommends one public recharging point per ten electric vehicles. There is a wide variation among the European countries assessed. In Iceland, the ratio is the lowest, with 39 electric vehicles per public recharging point, Norway in next with 24 charging points. However, Norway has the fifth highest number of charging points in Europe, therefore this is more of a reflection of its relatively high fleet

⁴² Energy Saving Trust, *Used Electric Vehicle Loan*, accessed 24/06/21

⁴³ OZEV, *Electric vehicle charging device statistics: April 2021*, May 2021

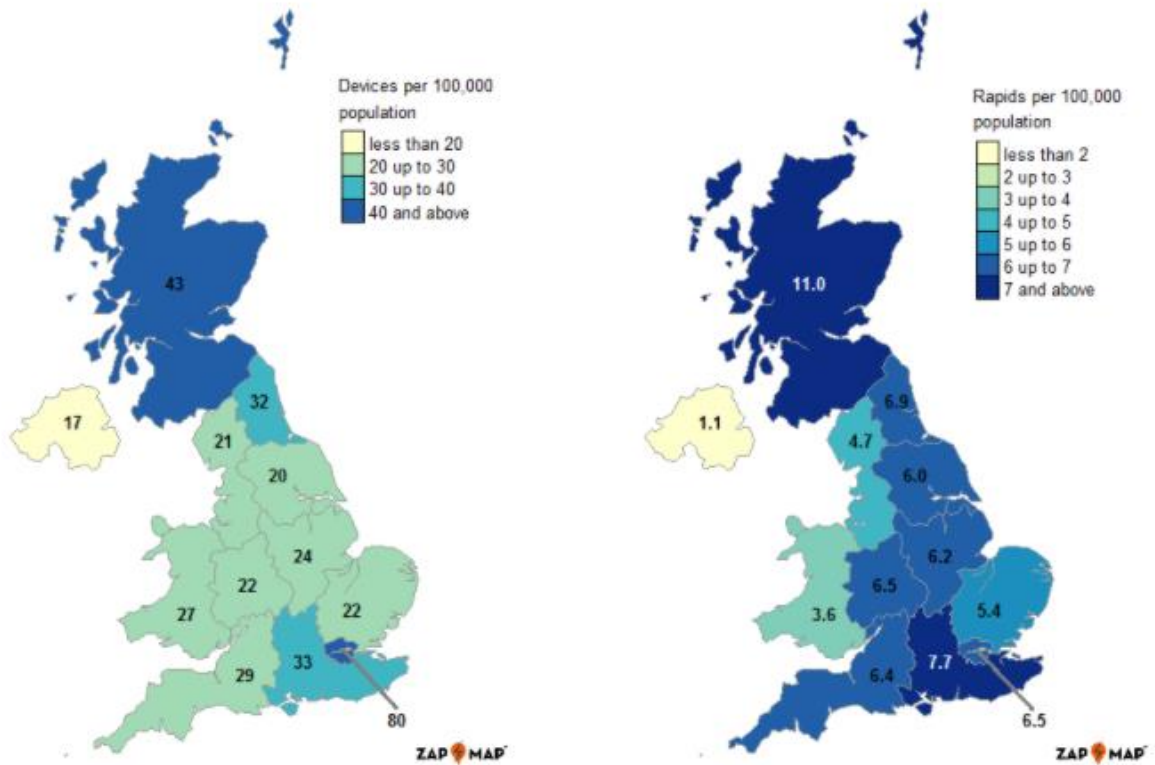
⁴⁴ *ibid*

⁴⁵ *ibid*

⁴⁶ Department for Transport and Office for Zero Emission Vehicles, *Electric vehicle charging device statistics: July 2021 tables*, August 2021

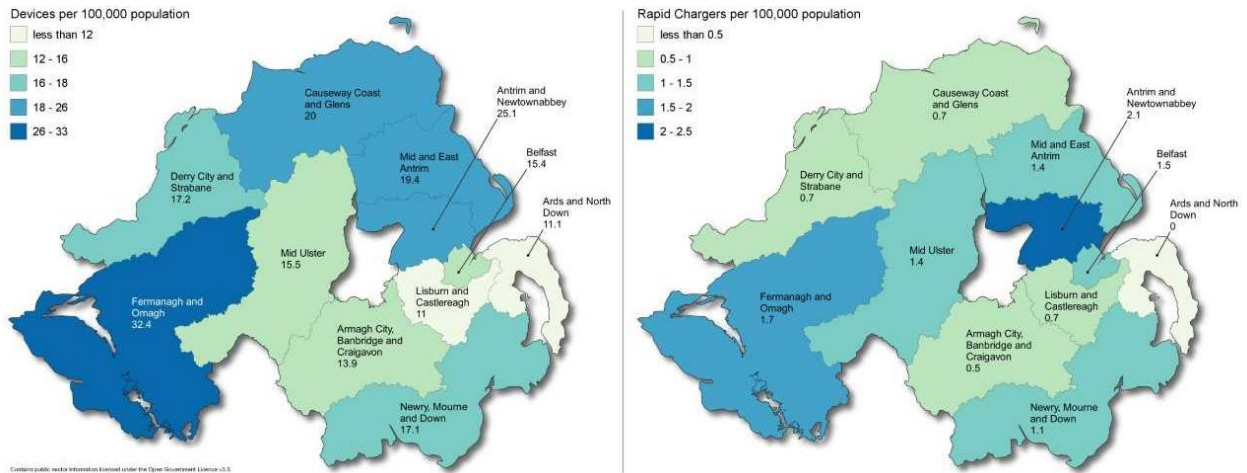
share. Ireland and NI are some way off the 10 charging points per BEV with 19 and 18 respectively while the UK is closer to the recommended coverage with 13 (figure 7).

Map 2: Total and rapid public charging points per 100,000 population by UK region 2021



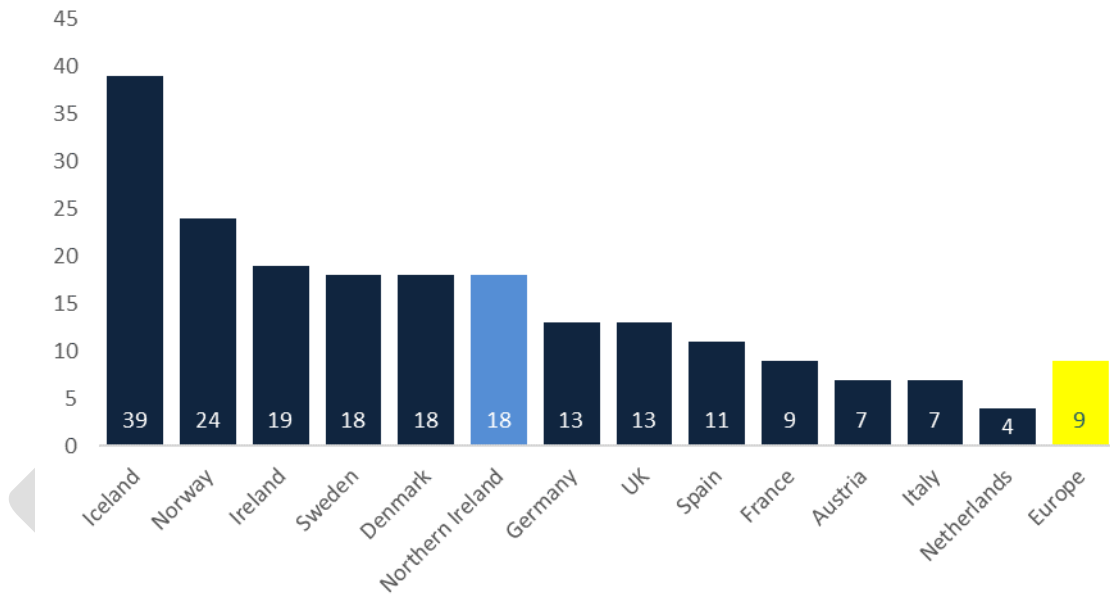
Source: *DfT and Office for Zero Emission Vehicles*

Map 3 Total and rapid public charging points per 100,000 population by NI LGD 2021



Source: DfT and Office for Zero Emission Vehicles

Figure 7: Plugin Electric Vehicles per public recharging point



Source: EAFO and DfT/OZEV

3 Barriers to ULEV adoption

As part of its Inquiry into Decarbonising Northern Ireland's Road Transport, the Committee for Infrastructure requested that the Assembly Research and Information Service prepare a survey to ascertain public attitudes towards ultra-low emission vehicles – both pure electric and plug-in hybrids – as well as perceived barriers to their use. The survey (ULEV Infrastructure Survey) ran from Monday 15 March to Friday 16 April 2021. The full results of the survey are available [here](#).

A key aim of the survey was to identify the perceived advantages and disadvantages of EV are, both from the point of view of people who had never owned one but also who

do own one or had owned one in the past. Of eleven possible disadvantages listed in the survey over 90% of respondents identified 'lack of charging stations' as the main disadvantage, while 75% identified the cost of EVs in comparison to conventional cars.

3.1 Charging infrastructure

There was a general consensus within the survey and the written submissions that the public charging infrastructure in NI is both inadequate for current demands and is only a fraction of what will be required if there is a significant uptake of EV in the coming years. This is reflected in the figures shown and reinforced by the findings from the public survey which found that over 90% of current EV owners were dissatisfied with the availability and maintenance of public charging stations.⁴⁷ One respondent to the survey commented,

"There has been zero engagement or investment from the Assembly to develop the public charging infrastructure. Any correspondence to try and prod them into action falls on lazy/deaf ears. The current charging network is completely dilapidated and totally unfit for purpose. Department for Infrastructure need to get their act into gear if we have any hope of being ready for the fossil fuel vehicle ban."

A worrying finding from the Committee's survey is the extent to which current EV owners would revert back to ICE cars. 15% of the current or previous EV owners who responded to the survey did not intend to buy an EV as their next car, or were undecided, with the state of the charging infrastructure the most common reason cited.

The Electric Vehicle Association (EVA), a not-for-profit community interest company that represent the interests of electric vehicle users in Northern Ireland, stated that: *"...the single overriding issue that faces EV drivers here [in NI] is the size and condition of the public-charging network."* The EVA's own research found that in February 2021 *"more than a quarter of AC chargers and around half of all DC chargers here are out of order."* The EVA noted that *"...seeing blocked and broken chargers is a disincentive to anyone who is considering changing to an EV, but it is much worse if you already drive one."*⁴⁸ As with the committee survey, the EVA research found the condition of the charging infrastructure was a key reason for drivers reverting back to ICE vehicles, some examples of comments provided to the committee include:

"My lease deal is up in November; seriously considering going back to diesel and, yes, it is because of how terrible the charging infrastructure is in Northern Ireland. There are now less chargers than when I got my car two years ago."

⁴⁷ RaISe, *Electric and Ultra-low emission vehicles: Public survey results*, June 2021

⁴⁸ Official Report, *Electric Vehicle Association Northern Ireland*, 19 May 2021

"As it is so bad here, both my father and myself have reverted back to diesel cars. You cannot rely on the charging network here. It is appalling."

"We really have enjoyed having a lease. Unfortunately, we have to go back to diesel due to the unreliability of the network."

"For a business looking to bring EVs into our fleet, how do we do it when the infrastructure is not supporting it? Vans would not be able to return to base if they cannot charge."

The public charging network in NI is operated and maintained by the Electricity Supply Board (ESB).⁴⁹ ESB states that it is

*aware that there are reliability issues with parts of the electric vehicle charging network in Northern Ireland. Unfortunately, due to the age of many of these chargers, most of which were installed almost 10 years ago, they are no longer supported by the original manufacturer and cannot be fixed despite the best efforts of our maintenance contractors.*⁵⁰

ESB has plans to replace 30 fast or 22kW AC chargers and a number of rapid chargers in the near future. However, it has stated that a much larger replacement programme is required to ensure a reliable and modern network that meets electric vehicle drivers needs for years to come and this will be subject to funding.⁵¹

The Electric Vehicle Association (EVA) pointed out that *"even if ESB replaced 100% of the network tomorrow, that would take us back only to where we were 10 years ago."* In terms of the service the EVA has called for:

- 24/7 access to chargers with many currently unavailable at night;
- Service level agreements with providers with guaranteed uptimes;
- the option for contactless payments;
- provision of two green spaces at every AC charger in order to maximise the existing infrastructure;
- improved signage; and
- improved accessibility for blue badge holders.

Analysis of EV markets in other jurisdictions⁵² clearly shows the important role a comprehensive and reliable public charging network has in stimulating EV adoption. The Committee's survey reflects this with over 90% of respondents identifying a 'lack of charging stations' as a major barrier to uptake in NI.

⁴⁹ Official Report, *Department for Infrastructure*, 19 May 2021

⁵⁰ ESB, *EcarsNI*, accessed 7 September 2021

⁵¹ Ibid.

⁵² RaISe, A comparison of electric vehicle (EV) markets and policies to promote adoption in Europe, September 2021

It is acknowledged that the DfI has commissioned research that will define what charging infrastructure is needed in NI, including where this should be located and what type of charging points should be used, while there is also a proposal for an 'EV infrastructure plan' in the energy strategy options consultation.⁵³ It is important that engagement with EV owners takes place to inform this research.

The outcome from the research and the consultation should be processed in a timely fashion and a plan brought forward addressing the condition of the current network and the extent of the required expansion up to 2030. This will be critical both to ensure an operational network for existing EV adopters and to allay doubts held by prospective new EV users.

3.1.1 Funding

Northern Ireland Electricity Networks (NIE) suggest the most significant barrier to rolling out a public electric vehicle charging infrastructure here is funding. NIE pointed out that *"it is too early in the life cycle of electric vehicles for commercial investment in charging infrastructure."* In its evidence to the Committee, NIE stated that for Northern Ireland, *"the options are public investment or investment through electricity bills [...] we do not believe that the private sector, on its own, will take on this in the short term until there are enough electric vehicles on the road to justify it."*⁵⁴

This is reflected in the current NI market, where ESB is the sole operator.⁵⁵ In 2015 ESB inherited the network installed by the former Department for Regional Development (DRD) in 2010. However, it receives no funding from the Department for Infrastructure to either maintain or invest in new charging infrastructure, nor can it generate revenue as it is currently free to charge.⁵⁶ ESB has stated that it is difficult for it to identify a business case for the rollout of replacement chargers and that it needs match funding to do this.⁵⁷ With regards to the introduction of 'pay for usage', ESB has stated that *"further investment is required to improve the reliability of the network before "pay for use" can be introduced."*⁵⁸

Evidence from the more advanced EV markets, such as Norway, the Netherlands and GB confirms that as EV uptake increases, more private sector operators will enter the market, increasing the supply of charging infrastructure with decreasing government

⁵³ Official Report, *Department for Infrastructure*, 19 May 2021

⁵⁴ Official Report, *Northern Ireland Electricity Networks*, December 2020

⁵⁵ Official Report, *Department for Infrastructure*, 19 May 2021

⁵⁶ *AQW 13792/17-22*

⁵⁷ Official Report, *Electric Vehicle Association Northern Ireland*, 19 May 2021

⁵⁸ ESB, *EcarsNI*, accessed 7 September 2021

support.⁵⁹ Equally early intervention was required to create the conditions for these markets to develop

ESB operates across the island of Ireland. In the ROI it was recently awarded €10m in match funding from the Climate Action Fund (CAF) to undertake a €20m programme to expand and enhance the charging network in ROI. There are three different parts to the project, which are:

- Over 50 charging “hubs” throughout Ireland which can charge between 3-8 vehicles simultaneously;
- The replacement of 50 Standard (AC) chargers with Fast (DC) chargers; and
- The replacement of over 200 unreliable Standard (AC) chargers⁶⁰

Pay for use is in place in ROI with ESB offering two price plans based on a paid monthly membership and pay-as-you-go plan, the rates are detailed below.

Table 4: ESB charging tariffs c/kWh for members and pay-as-you-go users

	Membership (€4.60 month subscription)	Pay-As-You-Go (No monthly fee)
Standard	23 c/kWh	26.8 c/kWh
Fast	26.8 c/kWh	30.5 c/kWh
High Power	33 c/kWh	37 c/kWh

Grants are available, through the OZEV, to support the installation of on street chargers for those who live in homes with no driveways/gardens. The on-street Residential Chargepoint Scheme (ORCS) is open for application from local authorities across the UK, to increase the number of roadside/residential electric car charging stations where off-street parking isn't available.⁶¹

The On-street Residential Chargepoint Scheme is a programme run by The Energy Saving Trust on behalf of OZEV and offers funding for 75% of the capital costs involved in procuring and installing on-street electric car charge points and dedicated parking bays, up to a value of £13,000.⁶²

Since the scheme began in 2017/18 there have been no successful ORCS applications from local authorities in NI.⁶³ NI was not alone however and take up was patchy across the UK. The National Audit Office (NAO) stated, that 32% of the £8.5 million allocated to the scheme up to 2020 was unused. It pointed out the scheme had been designed

⁵⁹ RalSe, A comparison of electric vehicle (EV) markets and policies to promote adoption in Europe, September 2021

⁶⁰ ESB, *Ireland's EV Charging Network*, accessed 7 September 2021

⁶¹ Office for Zero Emission Vehicles, *On-Street Residential Chargepoint Scheme guidance for local authorities*, April 2021

⁶² Energy Saving Trust, *On-street Residential Chargepoint Scheme*, accessed 21 August 2021

⁶³ Ibid.

without sufficient consultation, and that as a result it was difficult to bid for.⁶⁴ In February 2021, the Government committed £20 million to extend the ORCS into 2021–22.⁶⁵

Three of the Council's responding to the call for evidence indirectly addressed this issue pointing to the fact there is no statutory duty for councils to intervene in this area with a suggestion that councils therefore lack the necessary expertise.⁶⁶ It was pointed out that ownership of the road network, on-street car parking, footpaths, street lighting and other street furniture to which charging infrastructure may be retrofitted sits with DfI. Therefore, it was suggested that *"it would seem more appropriate that applications for funding and roll-out of such on street charging infrastructure is taken forward by DfI."*

Mid and East Antrim Borough Council has called for:

"...a central lead department/team of officers within DfI who can lead on a decarbonisation transport policy. There was a team established in 2010, Ecars Team, which proved very effective at forming partnerships with Councils and through which the first tranche of vehicle charging points was rolled out. Such a similar team needs to be re-established to drive this agenda forward."

The difference in administrative structures between GB and NI support this suggestion. This funding is available for the installation of infrastructure on local roads/streets. That it is open to local authorities makes sense in GB as local highway authorities usually reside within local authorities. This is not the case in NI, where all control of these functions is held centrally by the DfI. Although councils own some off-street car parks, unless there is a significant residential catchment these would fall outside the scope of this scheme.⁶⁷

In its response to the committee DfI has indicated that it has been engaging with the OZEV, EST and local councils with regards to the ORCS. The purpose of this engagement was to first, *"make sure that councils in NI could access the fund, and, secondly, to discuss with OZEV and the councils about the lack of uptake."* Officials indicated to the committee that the Department is *"...working to put a process in place that will support the councils in those applications."* Further noting that, *"our focus is more particularly on whether we can find a way to support the councils to access that money, rather than putting extra money in from the Department."*⁶⁸

⁶⁴ National Audit Office, *Reducing carbon emissions from cars*, 26 February 2020, p 8

⁶⁵ *"Government powers up electric vehicle revolution with £20 million charge points boost"*, GOV.UK, 2 February 2021

⁶⁶ Response 533. 20210413 (Derry and Strabane District Council)

⁶⁷ Office for Zero Emission Vehicles, *On-Street Residential Chargepoint Scheme guidance for local authorities*, April 2021

⁶⁸ Official Report, *Department for Infrastructure*, 19 May 2021

Armagh City Bainbridge and Craigavon Council identified a potential benefit for councils providing charging infrastructure, in its evidence submission it pointed out there is the potential for councils to,

generate an income by providing this infrastructure and reinvesting that income back into their borough (green electricity). However, this will require financial support and expertise to get off the ground. There are many different models for the deployment of charging infrastructure. This includes models where provision is left to private firms who will take on the commercial risks and the local authority exposure is minimal. There is also potential for charging infrastructure to raise revenue for councils or to be installed for little capital expenditure.

The principle of maximising drawdown from OZEV run funding schemes is sound. However, it is clear there has been a failure to do this due to confusion over what public body or bodies should lead on this issue and questions around knowledge/experience. It may be that the local highway authority, namely the Department for Infrastructure, would be best placed to access this funding rather than responsibility being passed to council officials with little experience in this area. However, engagement with councils should continue and a way forward agreed.

It is important to note that the window for drawing down funds from the ORCS is limited. Therefore, DfI should re-engage with the OZEV, EST and councils to ensure the unique circumstances in NI are considered.

Evidence from advanced EV markets shows that early public investment in infrastructure is necessary to stimulate EV uptake. It is only when this is at a sufficient level that a shift to private sector operation with decreasing government support will occur. DfI should engage with the ESB and other partners to agree a funding package that will bring the NI charging network to suitable condition.

4 Fleet managers

The Committee sought the views of stakeholders with a significant fleet management function. These include, public transport operators, road haulage operators, Government Departments and Local Councils. The Committee requested that stakeholders provide their organisations views on general issues related to transport decarbonisation and plans/challenges within their specific sector, covering the following themes

- The main challenges to the uptake of ULEV.
- The main benefits to the uptake of ULEV.
- Government support for the transition ULEV.
- Official targets and impact on specific sectors.

▪ Current viability and plans in place to transition to ULEV?

The committee received 19 responses to its call for evidence, these are set out in table five.

Table 5: Respondents to call for evidence by sector

Government Departments	Councils	Arm's Length Bodies	Private Sector	Industry Associations
<ul style="list-style-type: none"> • Department for Communities • Minister of Finance • Department of Education • Department for Infrastructure • Department for Justice • Department for the Economy • Department for Agriculture, Environment and Rural Affairs 	<ul style="list-style-type: none"> • Belfast City Council • Derry and Strabane District Council • Newry and Mourne District Council • Armagh • Bandbridge and Craigavon District Council • Mid and East Antrim Borough Council 	<ul style="list-style-type: none"> • Northern Ireland Water • Translink 	<ul style="list-style-type: none"> • FonaCAB 	<ul style="list-style-type: none"> • Logistics UK • Bus and Coach NI Ltd. • CBI • Road Haulage Association

4.1 Uptake of EV

Within the public sector, Translink has taken significant steps towards building a Zero Emission Vehicles (ZEV) fleet. Translink together with the Energia Group formed a consortium which successfully bid for part funding from the Office of Zero Emission Vehicles (OZEV) for three new Hydrogen Fuel Cell Buses. The overall capital investment represents around £4 million. DfI has allocated funding of almost £66million for the purchase of 145 zero and low emission buses that will enter the Translink fleet during 2021/22. 100 of these will be zero emission battery and hydrogen-powered vehicles.⁶⁹

Translink will have moved to a zero-emission bus and rail fleet by 2040, with fleets in Belfast and Derry/Londonderry achieving this target by 2030. In 2022, all Metro, Foyle Metro and Goldline vehicles will be modified or replaced, to operate to the latest Euro 6 emissions standards or better, Translink estimates that the full cost of decarbonising its bus and rail fleets is likely to be in the region of £1bn between now and 2040.

The Department of Justice (DoJ) has a fleet of 98 vehicles (35 Specialist Custodial Vehicles together with a number of passenger cars, vans and minibuses primarily used to transport low risk prisoners to working out opportunities, attending funerals, hospitals and the like), primarily within the NI Prison Service (NIPS). During the past 24 months

⁶⁹ Response 544. 20210415, Translink

NIPS has replaced over 80% of its road going fleet. In its submission it indicated that over 92% of its fleet is either Euro 6 Diesel, Hybrid or full Electric Vehicles (EV).⁷⁰

DoJ indicated it has received government grant for both the vehicles and charging points. It suggested that the provision of charging points for EV vehicles in other government establishments should be prioritised, for example, *“charging points in local police stations for custodial vehicles and charging points in other government premises for crown vehicles to avail of should they be required.”*

Other Departments have been slower to transition their fleet. However, there are some examples of limited adoption and pilots:

- In March 2020, the Northern Ireland Environment Agency purchased two fully electric vehicles. Those vehicles were procured for use by staff travelling between Country Park sites across Northern Ireland.
- The Department for Education has a fleet replacement strategy in place which includes sourcing two ULEV in 2025 to trial against diesel vehicles and identify the correct ULEV solution for the EA.
- NI Water have recently introduced four electric vehicles to its fleet. NIW is considering the possibility of hydrogen powered vehicles, solely or as an extender option for EVs, once the technology is available in Northern Ireland. NI Water plans to use hydrogen to fuel a small number of its vehicles as part of a pilot to explore its suitability as a viable long term fleet option

DAERA believes that the Public Sector needs to lead by example. It has called for a target *“that as vehicles reach their current end of life cycle and are due for replacement in the run up to 2030 that consideration to move to an ULEV vehicle must first be considered as a first choice.”* Derry City and Strabane Council agree that the public sector should take the lead and has called for an agency to be formed *“that can continuously monitor progress towards net zero within the public sector fleet.”*

The public sector must take the lead and commit to decarbonising their own fleet. A commitment should be made that, where possible and practical, zero emission vehicles are the first choice.

4.2 Barriers to uptake

The barriers faced by fleet managers are the same as those faced by individuals wishing to transition to EV, namely cost, range and practicality. Although Translink has made significant progress in decarbonising its fleet it notes that ZE buses are more expensive than the diesel vehicles they replace; for example, an electric bus is 1.8 times the diesel capital cost whilst a Hydrogen Fuel Cell bus is approximately 2.4 times the price of a diesel equivalent. In addition:

⁷⁰ Response 541. 20210415, Department of Justice

- There is a significant initial capital outlay is required to install the vehicle charging or hydrogen fuelling stations to support the new ZE fleets.
- Hydrogen fuel is comparatively expensive (largely due to the current low volume and low usage in the market)
- There is a cost associated with upskilling staff to operate and maintain the new ZE technologies makes business cases difficult to justify on cost alone.

Derry City and Strabane Council point out a fully electric 26 tonne refuse collection vehicle costs around £500,000, compared to £170,000 for a diesel equivalent. DCSC also points to the associated cost of charging infrastructure.

A number of councils pointed out that trials with smaller electric vans have shown range to be a significant issue with vehicles having to return to base in order to charge. This would have a significant impact on efficiency unless there is a substantial investment in infrastructure to allow en route charging. DoJ, has also identified range as an issue with some of its vehicles, which is not only inefficient but a potential security risk:

“We are currently looking into full EV custodial vehicle options but, unfortunately, none of the commercial manufacturers can provide a vehicle with a range greater than 80 miles. This, coupled with the added pressures of auxiliary heating, lighting and digital information systems, is not enough to provide secure transfers to even local courts.”

4.2.1 Taxi Sector

FonaCAB submitted a comprehensive response to the committee which detailed a number of barriers to ULEV uptake in that sector. The submission indicated that it has made efforts to transition its fleet but it faces a myriad of challenges, in particular:

- Lack of suitable working charging infrastructure;
- High cost of vehicles;
- Range anxiety and poor range of available EV models;
- Available EV models not practical for use as a taxi (e.g., Limited cabin space)

FonaCAB offers drivers a range of petrol/hybrid vehicles that they can choose to drive instead of ICE alternatives and have stocked EV and hybrid vehicles for sale through the retail sales side of its business.

4.2.2 Freight/Logistics sector

According to both the Road Haulage Association (RHA) and Logistics UK the main challenge to decarbonise the HGV fleet is the availability of suitable technologies.

“There is significant uncertainty over which technologies will be the most commercially viable to deliver zero emission HGVs, with different views around the potential of hydrogen fuel cell, battery electric and electric road systems.”

Logistics UK believes the key barriers to adopting these new technologies will be the higher cost of the vehicles, concerns over the infrastructure required (both public and private), grid capacity, vehicle availability and ensuring the primary function of the vehicle is not compromised (e.g. payload). To be widely adopted, all new technologies must be able to deliver a commercial business case, which may need to be initially facilitated by government support

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Links to Appendices

Printable version of Report can be accessed *here*

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