

## Research and Information Service Briefing Paper

Paper 49/25

2 April 2025

NIAR 198-2024

## Decarbonising Transport: Policy approaches of UK regions and Republic of Ireland

## Des McKibbin

This paper explores the transport decarbonisation policies of the UK, Welsh and Irish Governments.

This information is provided to Members of the Legislative Assembly (MLAs) in support of their duties, and is not intended to address the specific circumstances of any particular individual. It should not be relied upon as professional legal advice, or as a substitute for it.

## Introduction

The UK Government, all of the devolved legislatures and the Government of Ireland have committed to 'net zero' emissions by 2050. The transport sector is the largest contributor of Greenhouse Gas Emissions (UK) in the UK as a whole and second largest contributor in Northern Ireland, as it is in the Republic of Ireland.

As part of achieving net zero in Northern Ireland, the Department for Infrastructure (DfI) has a responsibility to publish a new transport strategy as set out in the Northern Ireland Energy Strategy and a Transport Decarbonisation plan as set out in the Climate Change Act (Northern Ireland) 2022.

This paper explores the transport decarbonisation policies of the UK, Welsh and Irish Governments. It sets out how each government has developed its plans to decarbonise their respective transport system following a similar blueprint, based on the sustainable transport hierarchy.

This hierarchy includes a range of policies designed to manage transport demand, reduce car use and encourage sustainable alternatives. The report highlights some difference in approaches, particularly around the issue of having clearly defined goals and targets upon which progress can be measured and scrutinised.

## 1 Legislation

## 1.1 The Climate Change Act and UK carbon budgets

<u>The Climate Change Act (2008)</u> sets the legislative basis for the UK's action on climate change. In 2019, following a recommendation from the Climate Change Committee (CCC), the government committed to a 100% reduction in greenhouse gas (GHG) emissions by 2050 as compared to a baseline of 1990. This was done via the <u>Climate Change Act 2008 (2050 Target Amendment)</u> <u>Order 2019</u>. This is referred to as the net zero target and is legally binding.

The legal definition of net zero as set out in the Climate Change Act is to ensure that the "net UK carbon account" is 100% lower than the 1990 baseline. This

can be achieved through reducing emissions as well as offsetting greenhouse gases, such as planting trees or using carbon capture and storage technologies.<sup>1</sup>

All of the UK must meet net zero by 2050, in line with the target set out in The Climate Change Act 2008. However, the four parts of the UK have different emissions profiles, for example, while transport accounts for the largest share of emissions in both England and Scotland, agriculture and energy supply are the leading emissions sources in Northern Ireland and Wales respectively.<sup>2</sup>

Each of the UK nations have set their own statutory deadlines for reaching net zero; the UK, Northern Ireland<sup>3</sup> and Wales<sup>4</sup> have set a target to achieve net zero GHG emissions by 2050. Scotland has a target to achieve net zero by 2045.<sup>5</sup>

## 1.2 Carbon budgets

Under Section 4 of the Climate Change Act 2008, as amended, the government must set five-yearly carbon budgets 12 years in advance, from 2008 to 2050, and must meet these targets. The first five carbon budgets, running up to 2032, were set to achieve progress towards the previously set 80% reduction target by 2050. The Sixth Carbon Budget, set in June 2021, covers the period 2033 to 2037, and aims to deliver a 77% reduction in national emissions (including international aviation and shipping) compared with 1990 levels, reflecting the UK Government's new target to achieve net zero by 2050.

While these carbon budgets apply to the UK as a whole, Northern Ireland and Wales climate change legislation also requires the setting of carbon budgets

<sup>&</sup>lt;sup>1</sup> GOV.UK, <u>UK becomes first major economy to pass net zero emissions law</u>, June 2019

<sup>&</sup>lt;sup>2</sup> National Audit Office, <u>Approaches to achieving Net Zero across the UK</u>, September 2023

<sup>&</sup>lt;sup>3</sup> Legilsation.go.uk, <u>Climate Change Act (Northern Ireland) 2022</u>, June 2022

<sup>&</sup>lt;sup>4</sup> Legilsation.go.uk, <u>The Climate Change (Carbon Budgets) (Wales) (Amendment) Regulations 2021</u>, February 2021

<sup>&</sup>lt;sup>5</sup> Legislation,gov.uk. <u>Climate Change (Emissions Reduction Targets) (Scotland) Act 2019</u>, October 2019

(see section 1.3.1). Legislation in Scotland does not require carbon budgets to be set, but there is a requirement to meet annual carbon reduction targets.

The UK's progress against these carbon budgets is monitored by two sets of statements that the UK Government lays before the UK Parliament:

- Annual statement of UK emissions setting out, among other things, the UK's GHG emissions, the movement of carbon units and the position of the net UK carbon account that year.
- Final statement for budgetary period a similar report published after the end of each carbon budget period, that sets out the final position of emissions, carbon units and the net UK carbon account. This is accompanied by an assessment of whether the budget was met and explanations for if it had not.

The Committee for Climate Change (CCC), is required by the Climate Change Act to present annual reports to the UK Parliament on progress towards meeting the carbon budgets. The CCC has commented that the first two budgets outperformed emissions-reduction targets and the third (2018–2022) is on track to do the same. However, looking ahead the CCC reports "emissions are not decreasing at the pace required to meet future budgets". The most recently set Sixth Carbon Budget (2033-2037) was the first to embed the net-zero target by 2050 into its estimates and the CCC has commented on current plans to achieve this budget as being lacking, with "significant risks or a policy gap for over a third of the emissions reduction required to meet the Sixth Carbon Budget". Furthermore, in its recent report (June 2023) on progress in reducing emissions, the CCC has raised further concerns about the pace of progress.

## 1.3 The Climate Change Act (Northern Ireland) 2022

The Northern Ireland Assembly passed the <u>Climate Change Act</u> (Northern Ireland) 2022 in March 2022 and received Royal Assent in June 2022. The NI Climate Change Act's headline target requires the Northern Ireland departments to ensure Northern Ireland reaches net zero emissions by 2050. This legislation also sets out interim emissions targets, with emissions requirements in 2030 to be at least 48% lower than the 1990 baseline and emissions in 2040 required to be "in line" to meet the 2050 target. Among other requirements, a target that at least 80% of electricity consumption is from renewable sources by 2030 was also set.

#### 1.3.1 Carbon budgets

The Act requires the Department for Agriculture, Environment and Rural Affairs (DAERA) to set 'carbon budgets'. Like the UK carbon budgets, these are split into carbon budgetary periods, the first being for 2023–2027, with each subsequent budgetary period lasting five years. The carbon budgets set for each budgetary period must be consistent with meeting the longer-term net zero by 2050 target (and where relevant the interim 2030 and 2040 targets) (see table one).

The Act includes the requirement that specified Northern Ireland government departments publish sectoral plans setting out how the emissions targets will be achieved by various sectors of the economy. This includes a requirement for the Department for Infrastructure to publish a decarbonisation plan for the transport sector. The Act does not set a timeframe for publication of these sectoral plans.

Target	Existing target (reduction on 1990 levels)
First Carbon Budget (2023-2027)	33%
Second Carbon Budget (2028-2032)	48%
2030 Target	48%
Third Carbon Budget (2033-2037)	62%
2040 Target	77%
2050 Target	100%

Table 1: Statutory targets for greenhouse gas emission reductions

## 2 Current emissions in Northern Ireland

Emissions in Northern Ireland were 21.3 MtCO<sub>2</sub>e (Million Tonnes of carbon dioxide equivalent) in 2022, the most recent year for which data is available.<sup>6</sup> This is 26% below the 1990 baseline. So far, emissions reductions have been driven by the energy supply and industry sectors, due to the phase out of coal and ramp up of renewable electricity generation, and reduced industrial output. There has also been a significant reduction in the waste sector.

In 2022, Agriculture was the largest emitting sector, responsible for 29.1% of emissions. Domestic transport was the second largest emitting sector contributing 18.1% to overall emissions.<sup>7</sup>



### Figure 1: 2022 emissions by sector

Source: DAERA

Since the base year (1990), agriculture and domestic transport are the only sectors to have seen increases in emissions. Emissions from domestic transport have increased by 0.3 MtCO2e (7.1%) in that time (see figure 2).

<sup>&</sup>lt;sup>6</sup> NISRA, <u>Northern Ireland greenhouse gas inventory 1990 – 2022 statistical bulletin</u>, June 2024

<sup>&</sup>lt;sup>7</sup> NISRA, Northern Ireland Greenhouse Gas Emissions 2022, June 2024

Agriculture		15%
Buildings and product uses	•	29%
Domestic Transport		7%
Electricity Supply	•	44%
Industry	•	61%
Land use, land use change and forestry	0	20%
Waste	•	62%

#### Figure 2: Emissions by sector, percentage changed 1990-2022

Source: DAERA

Road transport emissions are the main reason for this increase despite improvements in the efficiency of vehicles.<sup>8</sup> This is due to rising vehicle demand, driven by a 20% population increase, combined with a shift toward larger vehicles.<sup>9</sup>

# Figure 3: Greenhouse gas emissions for Northern Ireland by source sector for the years 1990 to 2022



Source: DAERA

The Climate Change Committee has described Northern Ireland's legal target for Net Zero as "extremely stretching", given that it goes "significantly beyond

<sup>&</sup>lt;sup>8</sup> Climate Change Committee, <u>Northern Ireland's fourth Carbon Budget</u>, March 2025

<sup>&</sup>lt;sup>9</sup> Climate Change Committee, Northern Ireland's Fourth Carbon Budget, March 2025

the CCC's advice on what would be a fair and achievable contribution from Northern Ireland to the achievement of UK-wide Net Zero emissions.<sup>10</sup>

In 2020, the CCC estimated Northern Ireland could achieve an 82% reduction on 1990 levels by 2050. After making several updates, the reduction is now 83%. Although the CCC appears somewhat skeptical that Northern Ireland can reach net zero by 2050 it is required to advise the Northern Ireland Executive on the level of the targets set in the Climate Change Act.

## 2.1 Net Zero pathway for domestic transport in Northern Ireland

The CCC advice on the level of Northern Ireland's Fourth Carbon Budget was published in March 2025. This advice is based on meeting the Net Zero target by the 2050 target, along with Northern Ireland's legislated decadal targets for 2030 and 2040 and the First, Second, and Third Carbon Budgets, which cover the period 2023 to 2037.<sup>11</sup>

In the pathway, surface transport emissions fall by 85% from 3.4 MtCO2e in 2022 to 0.5 MtCO2e by 2040. The key measures that must combine to reduce emissions in surface transport are:

- Electric cars and vans (67% and 9% respectively of emissions reduction in 2040).
  - By 2040, 78% of cars and 77% of vans on the road are electric. New electric car and van sales are both expected to surpass requirements of the Zero Emission Vehicle (ZEV) mandate and reach 85% of total sales in 2030. Although this is behind the UK's 95% market share, Northern Ireland is projected to catch up with the UK pathway and meet 100% of new sales by 2035.
- Zero-emission HGVs (11% of emissions reduction in 2040).
  - The pathway assumes battery electric vehicles are the option chosen to decarbonise all heavy goods vehicles (HGVs). Roll-out in the pathway scales up from the late-2020s, with 58% of HGVs

<sup>&</sup>lt;sup>10</sup> Climate Change Committee, <u>Advice report: The path to a Net Zero Northern Ireland</u>, March 2023

<sup>&</sup>lt;sup>11</sup> Climate Change Committee, Northern Ireland's Fourth Carbon Budget, March 2025

on the road being electric by 2040. The UK Government has a commitment to end sales of new fossil fuel HGVs across the UK by 2040 (2035 for smaller HGVs)

- Modal shift and efficient driving (9% of emissions reduction in 2040).
  Improvements to make buses and active travel more attractive, affordable, and accessible allow 5% of baseline car demand to switch to public transport and active travel by 2035, which is maintained to 2050.
- While car-kilometres continue to grow, modal shift reduces the growth rate compared to the baseline. The actual reduction depends on potential rebound effects, as EV owners may drive more due to lower running costs. Modal shift for Northern Ireland is lower than the 7% switch to public transport and active travel for the UK as a whole, due to Northern Ireland's more rural population distribution.
- Conventional vehicle efficiency, other zero-emission vehicles, and rail decarbonisation (2%, 2%, and 1% of emissions reduction in 2040, respectively)

The CCC notes that the Northern Ireland Executive has recently joined the UKwide ZEV mandate, and successful implementation of this is the most significant policy priority for decarbonising surface transport. It notes that Department for Infrastructure is empowered to take forward key policies to enable the EV transition. This includes:

- expanding provision of charging infrastructure and providing reliable public information;
- ensuring suitable planning policies and funding models are in place to support the development of charging infrastructure;
- continuing to collaborate with authorities in the Republic of Ireland on cross border charging networks, with particular focus on key freight routes;
- providing reliable information on the benefits of EVs to help counter public misconceptions;

- consider further policies and incentives to accelerate zero-emission van uptake, working with major van fleet operators to understand and overcome barriers to uptake such as charging and access to finance.
- The Department for Infrastructure should help to improve public transport services and active travel infrastructure, including by establishing integrated networks and dedicated walking and cycling routes, supported by long-term funding.<sup>12</sup>

## 2.1.1 Key challenges

The level of the behavioural change and uptake of EV set out in the CCC pathway within the timeframe required appears extremely challenging. At the end of June there were 17,300 battery electric vehicles (BEVs) registered in Northern Ireland, compared to 972,000 petrol and diesel vehicles. The number is rising steadily but BEV still account for less than 2 per cent of the car fleet, which must rise to 78 per cent by 2040 if Northern Ireland is to meet its emission reduction targets.

A key factor is provision of charging infrastructure. Maps 1 and 2 show how Northern Ireland lags far behind GB in terms of charging devices per capita.



Maps 1 and 2: Total and 50kW and above public charging devices per 100,000 of population by UK region 1 January 2025 (table ECVD\_02a)

<sup>&</sup>lt;sup>12</sup> Climate Change Committee, <u>Northern Ireland's Fourth Carbon Budget</u>, March 2025

Northern Ireland remains a highly car dependent society. Over 70% of all journeys in NI are by car whereas only 26% of all journeys which are made by walking, cycling or public transport. 87% of journeys of one mile or over are made in a car.<sup>13</sup>

#### 1.1.1 Public Transport Journeys

Increasing public transport use and active travel have been long term policy objectives since the publication of the first Regional Transportation Strategy (RTS) in 2002. The effectiveness of the approach taken to achieve this objective was examined by the NI Audit Office in 2015.<sup>14</sup> The NIAO review included analysis of performance, in terms of realising targets for modal shift and increased passenger numbers. The report noted that while overall public transport journeys had risen slightly, this was in line with population growth and no modal shift had occurred.

The COVID19 pandemic reduced mobility across the board but while car use has returned to pre-pandemic levels, public transport use has taken longer to recover:

- In 2023-24, there were 78.2 million journeys on public transport; this was an increase of 4.8 million or 6.5% since 2022-23, but a decrease of 6.2% from 2019-20 (83.4 million).
- During 2023-24, there were, 64.4 million bus passenger journeys, an increase of 6.3% when compared with 2022-23 (60.6 million), but a decrease of 5.6% from 2019-20 (68.3 million journeys).
- There were 13.8 million rail passenger journeys in 2023-24, an increase of 7.1% when compared with 2022-23 (12.9 million) but a decrease of 8.5% from 2019-20 (15.1 million).
- In March 2024, the number of bus passenger journeys reached its highest monthly level since the beginning of the pandemic with 7.8

<sup>&</sup>lt;sup>13</sup> ibid.

<sup>&</sup>lt;sup>14</sup> NI Audit Office, <u>DRD: the effectiveness of public transport in Northern Ireland</u>, April 2015.

million journeys. In the same month, rail passenger journeys reached a post-pandemic peak of 1.55 million.<sup>15</sup>

## 1.2 Existing Policy

On 16 December 2021, the Department for the Economy published the Northern Ireland Energy Strategy - the Path to Net Zero Energy.<sup>16</sup> The Energy Strategy includes a commitment to deliver a local transport strategy, based on a sustainable transport hierarchy, first identified in the Department for Infrastructure's Planning for the Future of Transport - Time for Change document.<sup>17</sup>

The first two steps of the hierarchy aim to reduce the amount of travel that people undertake using private vehicles by either utilising web based solutions to reduce travel or replace car journeys with public transport and active travel alternatives. The third step aims for a switch to zero emission vehicles. <sup>18</sup>



### Figure 4: Hierarchy in Reducing the Carbon Impact of Transport

Source: Department for Infrastructure (2021)

It is noted in Time for Change that the demand for private transport will have to be 'actively managed' especially at peak periods and in areas where private cars cause societal problems (such as safety, air quality and use of premium

<sup>&</sup>lt;sup>15</sup> Department for Infrastructure, <u>Public Transport Statistics Northern Ireland 2023-24</u>, September 2024

<sup>&</sup>lt;sup>16</sup> Department for the Economy, <u>Northern Ireland Energy Strategy - the Path to Net Zero Energy</u>, December 2021

<sup>&</sup>lt;sup>17</sup> Department for Infrastructure, <u>Planning for the Future of Transport - Time for Change</u>, June 2021

<sup>&</sup>lt;sup>18</sup> See footnote 29, Page 15

space).<sup>19</sup> This may suggest that measures such as congestion pricing and car parking management are being considered but equally public transport improvement, and provision of safe active travel routes are recognised as effective transport demand management measures.<sup>20</sup>

The time for change document notes that this hierarchy requires the prioritising of sustainable transport with active travel the top priority and private vehicles at the bottom as shown in figure two.



Figure 5: Sustainable Transport Hierarchy

Source: Department for Infrastructure (2021)

The Department for Infrastructure has a responsibility to publish a new transport strategy, as set out in the Energy Strategy and a Transport Decarbonisation plan as set out in the Climate Change Act. The remainder of this paper looks at transport decarbonisation has been addressed by the other UK regions and Republic of Ireland Governments.

## 2 UK Transport decarbonisation plan

The UK Government's transport decarbonisation plan was published in July 2021.<sup>21</sup> The Transport Decarbonisation Plan sets out the UK Government's

<sup>&</sup>lt;sup>19</sup> See footnote 29, Page 16

<sup>&</sup>lt;sup>20</sup> Black, C. and Schreffler E. Understanding Transport Demand Management and Its Role in Delivery of Sustainable Urban Transport, Journal of the Transportation Research Board vol. 2163 pages 81-88, December 2010

<sup>&</sup>lt;sup>21</sup> Department for Transport, '<u>Transport decarbonisation plan</u>', 14 July 2021

strategy to decarbonise the entire transport system in the UK. Some aspects of the plan, such as the commitment to end the sale of new petrol and diesel vehicles by 2030 (this was put back to 2035, however the UK Government are currently consulting on reinstating the 2030 deadline<sup>22</sup>), apply to the UK as a whole. For other areas of transport policy which are devolved, the strategy sets out proposals for England only, for example the National Bus Strategy<sup>23</sup> and the cycling and walking plan for England.<sup>24</sup>

The transport decarbonisation plan contained commitments for decarbonising all forms of transport, including:

- Increasing cycling and walking by investing £2bn over five years (through local authorities) with the aim that half of all journeys in towns and cities will be cycled or walked by 2030. This was based on commitments in the cycling and walking plan for England: '<u>Gear change: A bold vision for</u> <u>cycling and walking</u>', published in July 2020.<sup>25</sup>
- The UK Government established <u>Active Travel England</u> in August 2022. It is an executive agency, sponsored by the Department for Transport, to deliver the UK Government's mission to "make walking, wheeling and cycling the preferred choice for everyday trips".<sup>26</sup> The body will have allocated almost £1 billion in grant funding by the end of 2025<sup>27</sup> This is made up of capital funding directed toward infrastructure development, while revenue funding supports network planning, early-stage scheme design, community engagement and training activities.
- Zero emission buses and coaches: "We will deliver the national bus strategy's vision of a transformed bus industry and a green bus revolution".

<sup>&</sup>lt;sup>22</sup> Department for Transport, <u>Phasing out the sale of new petrol and diesel cars from 2030 and Support for the Zero Emission Transition</u>, December 2024

<sup>&</sup>lt;sup>23</sup> Department for Transport, <u>Bus Back Better: national bus strategy for England</u>, March 2021

<sup>&</sup>lt;sup>24</sup> Department for <u>Gear change: A bold vision for cycling and walking</u>, July 2020

<sup>&</sup>lt;sup>25</sup> Department for Transport, <u>Gear change: a bold vision for cycling and walking</u>, July 2020

<sup>&</sup>lt;sup>26</sup> Active Travel England, <u>About Active Travel England</u>, accessed 11 March 2025

<sup>&</sup>lt;sup>27</sup> Active Travel England, Corporate Plan, 2023-2025

- The Zero Emission Bus Regional Areas (ZEBRA) 2 scheme will provide £129 million to support the introduction of zero emission buses (ZEBs) in financial years 2023 to 2024 and 2024 to 2025.
- Decarbonising rail: "We will deliver a net zero railway network by 2050, with sustained carbon reductions in rail along the way. Our ambition is to remove all diesel-only trains (passenger and freight) from the network by 2040".

Commitments on multi-modal decarbonisation and key enablers included:

- Delivering a zero-emission freight and logistics sector: "We will support and encourage modal shift of freight from road to more sustainable alternatives, such as rail, cargo bike and inland waterways".
- Delivering decarbonisation through places: "We will support decarbonisation by investing more than £12bn in local transport systems over the current parliament, enabling local authorities to invest in local priorities—including those related to decarbonisation such as reducing congestion and improving air quality".
- Maximising the benefits of sustainable low carbon fuels: "We will seek to maximise the use of low carbon fuel in aviation and maritime as detailed in other relevant commitments elsewhere in this plan".
- Hydrogen's role in a decarbonised transport system. "The UK government will publish an overarching hydrogen strategy in summer 2021, which will focus on the increased production of hydrogen and use across the economy, including for transport".
- Future transport—more choice, better efficiency. "We will publish guidance for local authorities on support for shared car ownership and shared occupancy schemes and services".
- Supporting UK research and development as a decarbonisation enabler.
  "We will coordinate transport's investment in R&D, collaborating with key stakeholders through our transport research and innovation board (TRIB)".

A one-year-on review was published in July 2022. In her foreword to the review, the then minister of state for transport, Trudy Harrison, said that the government

had "made huge progress" and had already delivered many of the decarbonisation plan's commitments.<sup>28</sup>

In answer to a written question this year about which commitments in the plan had been completed or abandoned, the government said that over a third of them had been delivered or exceeded within three years:

The government's 2021 transport decarbonisation plan (TDP) set out 78 commitments to support decarbonisation of the UK's transport system by 2050. Since then, significant progress has been made with over a third of these commitments having been delivered or exceeded within three years. For example, the zero-emission vehicle (ZEV) mandate entered into force in January 2024—the world's most ambitious national level regulation of its kind. We regularly review our transport decarbonisation policies to ensure they are on track and are committed to publishing our progress and reviewing our net zero pathway at least every five years.<sup>29</sup>

## 3 Wales

The Welsh Government has set out its legal commitment to achieve net zero emissions by 2050, with interim targets for 2030 and 2040 and 2050, against carbon budgets (2021-25 and 2025-2030). The transport sector is only the third largest contributor of GHG emissions in Wales but decarbonising transport will still have a significant part to play in achieving net zero.

The de facto decarbonisation plan for Wales, is the <u>Net Zero Wales Carbon</u> <u>Budget 2 (2021-25)</u> (referred to as "the Net Zero Plan"), published on 28 October 2021. It sets out how Wales will meet its second carbon budget (CB2), and meet its 2030 emissions reduction target, as well as net zero by 2050.

The Net Zero Plan fulfils the Welsh Minister's statutory duty (under the Environment (Wales) Act 2016) to prepare and publish a report, before the end

<sup>&</sup>lt;sup>28</sup> Department for Transport, <u>Decarbonising Transport</u>, <u>One Year On</u>, July 2022

<sup>&</sup>lt;sup>29</sup> House of Commons, <u>Written question: Transport: Carbon emissions (13786)</u>, 19 February 2024

of 2021, setting out the policies and proposals for meeting the CB2. It contains 123 policies and proposals across all ministerial portfolios.

With regards to the transport sector, the net zero plan aims to:

- To reduce emissions from passenger transport by 22% in 2025 (from 2019) and 98% in 2050 through demand reduction, modal shift and the uptake of low carbon technologies;
- To reduce car miles travelled per person by 10% by 2030;
- To increase the proportion of trips by sustainable travel modes (public transport and active travel) to 35% by 2025 and 39% by 2030;
- By 2025 10% of passenger car travel will be by zero emission car and 48% of new car sales will be zero emission;
- Provide a comprehensive network of EV charge points; and
- have transitioned to a large proportion of bus, taxi and private hire vehicles fleet to zero emission vehicles.

## 3.1 Wales Transport Strategy

The Welsh Government published its <u>new transport strategy</u>, in 2021. Transport Decarbonisation is one of four delivery pathways set out in the Strategy. The strategy sets out the Welsh Government's transport ambitions for the next 20 years, and three headline priorities for the first five years:

- bring services to people in order to reduce the need to travel through better physical and digital connectivity;
- allow people and goods to move easily from door to door by accessible, sustainable and efficient transport services and infrastructure; and
- encourage people to make the change to more sustainable transport. This includes by making sustainable transport more attractive and more affordable alongside policies that disincentives car use, such as road user charging.

Transport infrastructure investment decisions will be based on the Sustainable Transport Hierarchy to give priority to interventions that support walking and cycling, public transport and ultra-low emissions vehicles over other private motor vehicles.<sup>30</sup> The strategy recognises that supporting modal shift on a substantial scale will require a large capital investment and ongoing revenue support beyond the current level. The Welsh Government has committed to ensure that the more specific capital transport expenditure on projects and programmes that support the transport strategy is aligned with the Wales Infrastructure Investment Plan.<sup>31</sup>

Various delivery plans are identified in the strategy but are not yet published, including:

- a National Transport Delivery Plan for Welsh Government interventions;
- regional transport plans for local government interventions on a regional basis;
- a Statement of Funds Available (SoFA) providing five-year budget scenarios for Transport for Wales (TfW);
- a decarbonisation pathway for transport and an action plan for demand management;
- a rural pathway to address the significant disparities between rural transport services in Wales and what is on offer in more urban areas.

## 3.1.1 EV Charging Strategy

The Welsh Government published an EV charging strategy and supporting action plan in March 2021.<sup>32</sup> This strategy aims to deliver a high-quality, reliable and widely available charging network across Wales. The Welsh Government has committed to ensure that there is at least one publicly accessible charge point for between every 7 and 11 electric cars and vans in Wales and support local authorities to deliver public and on-street charging via the Welsh Government ULEV Charging Fund.

Engagement with the private sector has been identified as a key area that needs to accelerate. The Welsh Government is working closely with local

<sup>&</sup>lt;sup>30</sup> Llwybr Newydd A New Wales Transport Strategy 2021: full strategy (gov.wales)

<sup>&</sup>lt;sup>31</sup> Page 40

<sup>&</sup>lt;sup>32</sup> Welsh Government, Electric Vehicle Charging Strategy for Wales, March 2021

authorities to support on this, including by mapping out their vision of what charging infrastructure is expected to be needed where to guide discussions between local authorities and the private sector and by offering assistance with key enablers, such as planning.

#### 3.1.2 Active Travel

The Welsh Government's 2021 <u>Infrastructure Finance Plan</u> committed £220 million over 2022/23 2024/25 through the Active Travel Fund. This includes a mixture of core funding for every local authority and grants for specific projects. On a per-capita basis, this is almost four times as much funding as that committed by the UK Government to Active Travel England.

## 4 Scotland

In 2019, the Scottish Government declared a climate emergency<sup>33</sup> and went on to set a target of net zero greenhouse gas emissions by 2045. It also announced interim targets, including a 75 per cent reduction in greenhouse gas emissions by 2030 (based on 1990 levels). The Climate Change Committee (CCC) advised at the time that achieving the 2030 interim target would be extremely challenging.<sup>34</sup>

## 4.1 National Transport Strategy

Scotland's National Transport Strategy is a vision for Scotland's transport system for the next 20 years. The strategy is based on the Scottish Sustainable Development Goals and focuses on driving a sustainable, inclusive, safe and accessible system in Scotland that everyone can use.<sup>35</sup>

Transport Scotland's National Transport Strategy 2 (NTS2) introduces the Sustainable Travel and Investment Hierarchies. These hierarchies prioritise

<sup>&</sup>lt;sup>33</sup> Scottish Government, <u>The Global Climate Emergency - Scotland's Response</u>, May 2019

<sup>&</sup>lt;sup>34</sup> Climate Change Committee, <u>Letter: Lord Deben, Climate Change Committee to Roseanna</u> <u>Cunningham MSP</u>, 2020.

<sup>&</sup>lt;sup>35</sup> Transport Scotland, <u>Transport Scotland's National Transport Strategy 2 (NTS2)</u>, February 2020

sustainable transport modes i.e. walking, wheeling, cycling, public transport and shared transport options in preference to single occupancy private car use for the movement of people.<sup>36</sup> The Sustainable Investment Hierarchy highlights the need to focus on maintaining and safely operating existing assets and making better use of existing capacity before considering building new infrastructure. The NTS2 expects public bodies to follow these hierarchies when making decisions about transport investment.<sup>37</sup>

Following the publication of the NTS2, Transport Scotland published other transport strategies such as:

- <u>the Active Travel Framework</u> (February 2020) outlines key policy approaches to improving the uptake of walking and cycling in Scotland for travel;
- <u>the Cycling Framework for Active travel</u> (April 2023), a plan for everyday cycling;
- <u>the Fair Fares Review</u> (April 2023) a prospectus for making the public transport systems more accessible, available and affordable; and
- <u>The Strategic Transport Project Review 2 (STPR2)</u>, a plan for transport investment over the next 20 years including infrastructure and other behavioural change recommendations.

## 4.2 Decarbonising transport

Domestic transport is the largest source of emissions in Scotland, accounting for 28 per cent of all emissions. Domestic transport emissions are reducing at a slower rate than emissions from most other sectors. Emissions from cars make up the largest share of all domestic transport emissions.<sup>38</sup>

<sup>&</sup>lt;sup>36</sup> As above

<sup>&</sup>lt;sup>37</sup> As above (Page 44)

<sup>&</sup>lt;sup>38</sup> Transport Scotland, <u>20% reduction in car km by 2030</u>, accessed 13 March 2025



38.2%

Source: Transport Scotland

The Scottish Government's update to its 2018 Climate Change Plan includes policies to achieve the new emission reduction targets. This includes a target to reduce car kilometres driven, by 20 per cent by 2030, compared with 2019 levels.

## 4.3 Route Map

On 13 January 2022, Transport Scotland published a draft <u>route map to achieve</u> <u>a 20 per cent reduction in car kilometres by 2030</u>, which was developed in partnership with CoSLA- The Confederation of Scottish Local Authorities.

The draft route map makes use of behavioural change theory and identifies four sustainable travel behaviours for everyone in Scotland to consider when planning a journey, setting out a range of transport and non-transport interventions that will help them to adopt these behaviours. These behaviours are:

- make use of online options, where appropriate, to reduce the need to travel
- choose local destinations to reduce the distance travelled
- switch to walk, wheel, cycle or public transport where possible

• combine a trip or share a journey to reduce the number of individual car trips made, if a car remains the only feasible option.<sup>39</sup>

The route map acknowledges that the ability to drive less will vary in different geographical locations and for individuals with different needs. It emphasises that this is a national ambition and does not mean car use in rural and remote areas, and car use by those who's circumstances limit their travel options, is expected to drop at the same rate.

The route map is a cross sectoral plan to manage the demand for transport in Scotland. It is based on various transport demand management measures:

- to reduce the need for travel, such as better planning practices and broadband provision,
- policies to discourage car use such as parking charges and low emission zones; and
- policies to encourage active travel and public transport use based on offering high quality affordable services and investment.<sup>40</sup>

The route map includes a commitment to conduct further research in equitable demand management measures and publish a Demand Management Framework by 2025.<sup>41</sup>

## 4.3.1 Progress

An Audit Scotland report, assessing Scotland's progress towards a 20 per cent reduction in car kilometres by 2030, has concluded that It is unlikely that the target will be achieved. It has not said how this will affect its wider ambitions to achieve net zero emissions by 2045.<sup>42</sup>

<sup>&</sup>lt;sup>39</sup> Transport Scotland, <u>A route map to achieve a 20 per cent reduction in car kilometres by 2030</u>, January 2022

<sup>&</sup>lt;sup>40</sup> Transport Scotland, <u>A route map to achieve a 20 per cent reduction in car kilometres by 2030</u>, January 2022

<sup>&</sup>lt;sup>41</sup> As above.

<sup>&</sup>lt;sup>42</sup> Audit Scotland, <u>Sustainable transport: Reducing car use</u>, January 2025

The report found that the Scottish Government and councils will find it hard to significantly reduce transport emissions unless they make difficult and potentially unpopular decisions to discourage car use.

In its assessment, Audit Scotland noted that the current routemap lacks key information to deliver the car kilometres target. There is no information on:

- the likely or estimated impact of each intervention on reducing car use and over what timeframe this impact will be realised
- the costs of delivering individual interventions
- which body is responsible for delivering each intervention
- milestones for measuring progress towards delivering the interventions
- the timescales for delivering the interventions.

Audit Scotland point out, this makes it impossible to understand which interventions will have the most impact on the target or deliver the best value for money. It also makes monitoring and scrutinising progress difficult as it is not clear whether an intervention is off track or who is responsible if it is. The CCC<sup>43</sup> and the Institute for Public Policy Research.<sup>44</sup> have also reported on the lack of a clear delivery plan for the target.

Audit Scotland has criticised the Scottish Government for regularly delaying important decisions to deliver the car kilometre target. The Scottish Government published its draft routemap in January 2022. With plans for the final routemap to be published in October 2022. According to Audit Scotland, internal Transport Scotland performance reports indicate that these delays were due to transport ministers not approving publication of the routemap and research. The report suggests that the Scottish Government has deprioritised the target in the face of growing financial pressures. It has called on the Scottish Government to consider whether this target remains a priority and, if so, clearly restate its commitment to it.<sup>45</sup>

<sup>&</sup>lt;sup>43</sup> Climate Change Committee, <u>Progress in reducing emissions in Scotland</u>, March 2024

<sup>&</sup>lt;sup>44</sup> Institute for Public Policy Research, <u>Wheels of Change: Promoting Fair and Green Transport in</u> <u>Rural Scotland</u>, June 2024

<sup>&</sup>lt;sup>45</sup> Audit Scotland, <u>Sustainable transport: Reducing car use</u>, January 2025

Similarly, the CCC has recommended that the Scottish Government publishes a detailed strategy, building on the Draft Route Map of 2022, setting out how the Scottish Government will achieve a 20% reduction in car-kilometres by 2030 and deliver 20-minute neighbourhoods. The CCC indicates this should include investment in more sustainable modes of travel, improvements in the affordability and reliability of public transport and measures to reduce dependency on driving.<sup>46</sup>

### 4.3.2 Main challenges

As well as the issues around policy clarity and finance, Scotland is facing a number of other fundamental challenges in delivering its plan to reduce car use:

- Car traffic levels quickly rebounded following the COVID-19 pandemic;
- There is no evidence of a significant and sustained modal shift away from private car use to more active forms of transport
- Public transport use is failing to recover to pre-pandemic levels.<sup>47</sup>

### 4.3.3 Main solution?

In 2022, the Scottish Government commissioned independent research into the role Demand Management measures could have in delivering its car use target. Demand management Measures aim to reduce the attractiveness of driving through measures such as road reallocation, parking charges and charging drivers for entering an area or for the amount they drive. The intention is to make the cost of driving, in terms of either time or money, more than that of the alternatives.

The final report published in December 2024 provides evidence that shows that without demand management the car kilometres target will not be achieved.<sup>48</sup> While many of the policies may be viewed negatively, the report suggests that a positive of demand management measures is the potential to raise significant levels of revenue which, existing legislation states, should be used to support

<sup>&</sup>lt;sup>46</sup> Climate Change Committee, <u>Progress in reducing emissions in Scotland</u>, March 2024

<sup>&</sup>lt;sup>47</sup> Audit Scotland, <u>Sustainable transport: Reducing car use</u>, January 2025

<sup>&</sup>lt;sup>48</sup> AECOM, <u>Travel Demand Management Options Study</u>, December 2024

the objectives of the local transport strategy. Any new legislation on national schemes would need to consider how the money raised is spent.

Some of the options considered in the report include:

- A national 'pay as you drive' charge of 10 pence per kilometre with discounts to those living in rural areas and people with a disability. The report concludes this provides the best opportunity for reducing car use. This could result in a 26 per cent reduction in car kilometres and raise £2.3 billion annually in 2030. The Scottish Government does not currently have the powers to introduce national charging.
- An area-based scheme that charges drivers around £15 per day for travelling into large urban areas (Aberdeen, Edinburgh, Dundee and Glasgow) could reduce car kilometres by 25 per cent and raise £1.3 billion annually in 2030. This would be dependent on the cities implementing the scheme at the same time. Local charging options would be easier and quicker to introduce because of the powers councils hold through the Transport (Scotland) 2019 Act.

A key recommendation of the report is to establish a Framework of Implementation for demand management measures in Scotland to ensure interoperability between different local schemes or local and national schemes.<sup>49</sup>

<sup>&</sup>lt;sup>49</sup> As above (page 18)

#### Figure 6: Demand management tools



Providing research and information services to the Northern Ireland Assembly

account more for distance travelled. This is reserved to the UK Parliament and outwith the Scottish Government's control.

Source: Audit Scotland

## 5 Ireland

Ireland is committed to achieving net zero by 2050, with a 51% reduction in GHG emissions by 2030. These legally binding objectives are set out in <u>section</u> five of the Climate Action and Low Carbon Development (Amendment) Act <u>2021</u>. The Climate Act establishes a legally binding framework with clear targets and commitments, to ensure the necessary structures and processes are in place to deliver on national, EU and international climate goals and obligations.

## 5.1 Transport and Climate Change

As is the case in Northern Ireland, agriculture is the single largest contributor to the overall emissions in the Republic of Ireland, at 37.8%, with transport the next largest contributor, at 21.4%.<sup>50</sup>

Between 1990 and 2023, transport shows the greatest overall increase of GHG emissions at 129.2%, with road transport increasing by 133.6%. The increase in emissions can be attributed to general economic prosperity and increasing population, with a high reliance on private car travel as well as rapidly increasing road freight transport. Over the time series passenger car numbers increased by 191% and commercial vehicles increased by 177%.<sup>51</sup>

Passenger cars are responsible for 49% of road transport emissions, with heavy goods vehicles (HGVs) responsible for 21%, light goods vehicles for 22% and buses for 8%.<sup>52</sup> By 2040 the population of Ireland is expected to grow by over 1 million to 5.7 million people. This growth will drive greater demand for transport. While this is a sign of a vibrant economy, it intensifies the challenge to decarbonise transport.

To make growth less transport intensive some key policies include:

<sup>&</sup>lt;sup>50</sup> Environmental Protection Agency, <u>Latest Emissions Data</u>, July 2024

<sup>&</sup>lt;sup>51</sup> As above

<sup>&</sup>lt;sup>52</sup> Environmental Protection Agency, <u>Ireland's Final Greenhouse Gas Emissions 1990–2022</u>, May 2024.

- The successful execution of the National Planning Framework designed to promote compact, connected and sustainable living;
- Expansion of walking, cycling and public transport to promote modal shift;
- Better use of market mechanisms to support modal shift;
- The successful roll-out of the National Broadband Plan, which can promote remote working and wider activities which reduce unnecessary journeys.<sup>53</sup>

## 5.1.1 Climate Action Plan

The Irish Government published its first <u>Climate Action Plan</u> in 2019. These plans are updated biannually, there are currently four plans with the latest published in July 2024.

The climate action plans set actions across all sectors to achieve a cumulative reduction in emissions, over the period 2021 to 2030. There are over 70 actions in the transport chapter of the Climate Action Plan from delivering significant enhancements across public transport, active travel and electric vehicle charging infrastructure to developing strategies that will help drive behavioural change away from traditional fossil fuelled private car journeys to more sustainable mobility options.

The plans include key target metrics to measure progress and facilitate proper scrutiny. The 2024 plan notes that meeting the 2030 transport abatement targets will require transformational change and accelerated action across the transport sector. Key targets within the sectoral emissions ceiling include:

- a 20% reduction in total vehicle kilometers travelled;
- a 50% reduction in fossil fuel usage;
- a significant behavioural shift from private car usage to increase the total share of journeys undertaken by walking, cycling or public transport; and

<sup>&</sup>lt;sup>53</sup> Government of Ireland, <u>Climate Action Plan</u>, 2019 (Page 88)

• continued electrification of vehicle fleets.54

The plan views the electrification of transport as the best and most cost effective measure to decarbonise surface transport. No new non-zero emissions vehicles will be sold in Ireland post 2030 and no NCT (Road Worthiness) Certificate will be issued for non-zero emissions cars post 2045. Under this Plan the Irish Government identified a mix of regulatory, taxation and subsidy policies to drive significant ramp-up in passenger EVs and electric van sales.

The plan also introduces a number of new policies to give the public confidence to switch to EVs, by ensuring that the national charging network has a substantial supply buffer ahead of demand, measures include:

- Continue supporting the expansion of the EV charging network as well as the refuelling network for alternatively fuelled vehicles to address freight emissions;
- Deliver charging infrastructure under the Climate Action Fund, to include over 90 high powered chargers at key locations on the national road network, installation of 50 new fast chargers, and replacement of over 250 standard chargers;
- Require new non-residential buildings with more than 10 parking spaces to have at least one recharging point installed by 1 January 2025
- Require the installation of a minimum number of recharging points for all existing nonresidential buildings with more than 20 parking spaces by 1 January 2025 at the latest, and review the level of provision to ensure it is ahead of demand;
- Work with the motor sector and retailers to rapidly expand the charging network on garage forecourts;
- Frontload public investment to drive consumer confidence in the availability and reliability of public charging infrastructure, and set a strategy for EV charging stations with a defined target to stay ahead of

<sup>&</sup>lt;sup>54</sup> Government of Ireland, Climate Action Plan 2024, July 2024

demand, coupled with clear planning rules that facilitate installation and increase the obligation over time.

## 5.2 National Sustainable Mobility Policy

The <u>National Sustainable Mobility Policy</u> (SMP) was published in April 2022, and sets out a strategic framework to 2030 for active travel (walking and cycling) and public transport journeys to help Ireland meet its climate obligations. It is accompanied by an action plan to 2025 which contains actions to improve and expand sustainable mobility options in Ireland. It also includes demand management and behavioural change measures to manage daily travel demand more efficiently and to reduce the journeys taken by private car.<sup>55</sup>

The overarching targets of the mobility policy are aligned with the transport target metrics in the Climate Action Plans of 500,000 additional active travel and public transport journeys per day and a 20% reduction in kilometres driven by fossil fuelled cars by 2030.

Implementation of the Policy will be funded through the capital expenditure allocations provided by the National Development Plan (NDP) 2021-2030 and through the current expenditure allocations provided through the annual budgetary process. Over the period 2021 to 2030, approximately €35 billion in capital funding has been allocated for the transport system. A number of non-Exchequer related policy levers will also be applied including regulatory and demand management measures.

#### 5.2.1 National Demand Management Strategy

The Irish Government announced in 2023 that it is developing a new National Demand Management Strategy, which was identified as a key action in Climate Action Plan 2023. The overarching aim of the strategy, as set out in the Climate Plan, is to support a 20% reduction in vehicle kilometres travelled by 2030.<sup>56</sup>

<sup>&</sup>lt;sup>55</sup> Department for Transport, <u>National Sustainable Mobility Policy</u>, April 2022

<sup>&</sup>lt;sup>56</sup> Government of Ireland, <u>New National Demand Management Strategy aims to reduce congestion</u> and free up our cities and towns, April 2023

The Irish Government has indicated that it is considering a range of demand management measures, such as road space reallocation, car-free zones and road user charging. However, it has recognised these measures will only be effective and equitable when alternative, public transport options are readily available, both in urban and rural areas.

This strategy will be aligned with a 'Climate Action and Sustainable Mobility Communications and Public Engagement Strategy', to raise awareness about the systemic changes in public transport and active travel that are already taking place, and to promote behavioural change to sustainable alternatives.