



## **Consultation on Clean Air Strategy**

**Submission to the Department of the Environment, Climate  
& Communications**

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## 1.0 Introduction

Bus Éireann is Ireland's national bus company and operates more than 220 routes, with a fleet of 1,150 vehicles across Public Service Obligation and Expressway services, as well as providing 7,000 dedicated school transport routes. In 2019 (prior to Covid-19), Bus Éireann carried 89 million passengers. Our passenger numbers are returning to those levels this year, and exceeding them in some locations.

Buses are a major pillar of the public transport system in Ireland, given our smaller urban areas and lower population density than some of our European neighbours. The majority of buses currently in use in Ireland are diesel powered.

In 2021 Bus Éireann launched its first Sustainability Strategy 'Driving Change 2021-2030'<sup>1</sup>. The strategy outlines a roadmap, presenting key targets relating to Climate Action, Waste and Consumption, Equality and Education, Decent Safe Work, Cities and Communities and Modal Shift.

The area of air quality is specifically referenced in our commitment to have half our bus and coach fleet zero emission and the remainder at least at the Euro VI cleaner emission standard by 2030. Sixty-three percent of our service bus fleet are now at the Euro VI standard, with greatly reduced Nitrogen oxides (NOx), Hydrocarbons and Particulate Matter (PM) emissions than older diesel vehicles. We are committed to redevelop our depot facilities to continue to enable this transformation of our fleet.

We align our strategy to the Climate Action Plan 2021 (CAP)<sup>2</sup> indicative range of carbon reduction by sector (transport 42%-50% by 2030) and seek to reduce our carbon emissions by 50% by 2030, mainly through transitioning our fleet from diesel to more sustainable fuels – which also has benefits for clean air. Another key goal is to contribute significantly to modal shift from the private car and increase our passenger numbers by 30% against our 2019 baseline. Both of these objectives are consistent with the Clean Air Strategy priorities.

As a major public transport provider in Ireland, we understand that we can contribute significantly to the decarbonisation of Ireland's economy in the decade ahead. In

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<sup>1</sup> <https://buseireann.ie/inner.php?id=709>

<sup>2</sup> Government of Ireland 2021. <https://www.gov.ie/en/press-release/16421-climate-action-plan-2021-securing-our-future/>

October 2021, a Socio-Economic Assessment of Bus Éireann by KPMG<sup>3</sup> found that 34 million car journeys were avoided each year through our PSO, Expressway and school bus services. As referenced in the EPA's recent emissions report<sup>4</sup>, for Ireland to comply with emission reduction commitments for nitrogen oxides for 2030 will require full implementation of the measures in the CAP, including significant electrification of the transport sector. Achieving a 51% reduction in carbon emissions by 2030 and a climate neutral economy by 2050 will be challenging. It will require a fundamental transition in Bus Éireann's fleet, buildings and ways of working – a transition that we have already begun. It will require extensive training support for our employees and repurposing of our depots.



Figure 1 – Bus Éireann Sustainability strategy graphics

According to the WHO<sup>5</sup>, in general, transport is one of the main sources of air pollution, for which evidence on direct effects on mortality as well as on respiratory and cardiovascular disease is firmly established. There are estimated to be about 100,000 premature adult deaths attributable to air pollution each year in the WHO European Region. Emissions from road traffic account for a significant share of this burden.

<sup>3</sup> [https://buseireann.ie/bus\\_eireann\\_news.php?id=5230&month=Oct](https://buseireann.ie/bus_eireann_news.php?id=5230&month=Oct)

[https://www.epa.ie/publications/monitoring--assessment/climate-change/air-emissions/EPA-Irelands-Air-Pollutant-Emissions-report\\_2021Final.pdf](https://www.epa.ie/publications/monitoring--assessment/climate-change/air-emissions/EPA-Irelands-Air-Pollutant-Emissions-report_2021Final.pdf)

<sup>4</sup> [https://www.epa.ie/publications/monitoring--assessment/climate-change/air-emissions/EPA-Irelands-Air-Pollutant-Emissions-report\\_2021Final.pdf](https://www.epa.ie/publications/monitoring--assessment/climate-change/air-emissions/EPA-Irelands-Air-Pollutant-Emissions-report_2021Final.pdf)

<sup>5</sup> <https://www.euro.who.int/en/health-topics/environment-and-health/Transport-and-health/data-and-statistics/air-pollution-and-climate-change2>

## 2.0 Replies to questions posed

The following are observations and comments from Bus Éireann on the questions contained in the consultation introduction document.

### 2.1 Do you agree with the five strategic priorities outlined in the draft strategy?

Yes we believe that the strategic priorities are appropriate. The commitment to continuous improvement in this area is welcome, as is the recognition that public transport has an important role to play, both in transitioning to cleaner buses but also enabling a shift to public transport as a cleaner mode of travel than private car.

In this respect, Bus Éireann welcomes the objectives and goals outlined within the Clear Air Strategy and will support the relevant other agencies in its implementation. The planned investment in public transport infrastructure is important in order to ensure that public transport has the necessary priority so that it can offer attractive and guaranteed running times and punctuality, avoiding congestion.

### 2.2 Do you feel there are additional strategic priorities which should be included?

The importance of internal as well as external air quality has received particular focus during the pandemic and indeed in the recent debate surrounding burning of fossil fuels for space heating. On our vehicles, with funding from the National Transport Authority (NTA), we are in the process of upgrading our vehicle air filters to the newer PEPA-F type, which provide improved air filtration. We have also carried out ventilation assessments in our workplaces and have a programme of improvement actions where required.

Congested traffic is identified as a particular risk in the strategy. As our country opens up again in 2022 after Covid-19, the transport arteries into the cities and large towns are likely to see an increase in traffic congestion. Buses need bus lanes and other priority measures to guarantee journey times and punctuality, in order to provide an attractive alternative to the private car. We would urge that the development of bus corridors in regional cities and to and from Dublin are given high priority to support the objectives of the CAP.

As referenced above, we are responsible for carrying over 116,000 school children under the School Transport Scheme on behalf of the Department of Education. This

includes children with special educational needs. We are participating with the Department of Education in the current Review of the School Transport Scheme, with a key focus on delivering climate action targets and agreeing a roadmap to decarbonisation for the school bus contractor fleet. The USA have taken a leadership role in clean and sustainable school transport and have developed a Clean School Bus Programme<sup>6</sup> which allows the American EPA to offer rebates in addition to grants to reduce harmful emissions from older diesel vehicles. The innovative Cleaner Trucks Initiative<sup>7</sup> has also been adopted by a number of states in the US, which will assist the transition for trucks and larger buses and coaches by encouraging manufacturers to produce suitable vehicles.

### 2.3 How can pollutant emissions data be better used to inform actions at local and national levels?

Bus Éireann are actively participating in the Government's UTRAP initiative (page 52 of consultation document) on urban transport air quality since 2019 and are open to participating and assisting the relevant agencies in focused monitoring programmes and assessments nationally as well as providing transparent data on our own climate related KPI's.

Additional monitoring sites in more urban locations may be needed as the strategy is rolled out, including in the regional urban locations where we operate many of our services. This data could be used to localise and communicate problem areas or track baselines to show improvements following initiative such as new bus fleet introduction.

### 2.4 What do you feel are the most important current and emerging air quality issues in Ireland that require further research?

It is imperative that clean air considerations are integrated and adopted in any future transport policies and regulations and that there is cross-agency consultation where these policies are implemented.

There are wider public health benefits in using public transport, as part of an active travel journey, which involves walking or cycling to and from a bus stop or boarding

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<sup>6</sup> <https://www.epa.gov/cleanschoolbus>

<sup>7</sup> <https://www.epa.gov/regulations-emissions-vehicles-and-engines/cleaner-trucks-initiative>

point. Bus Éireann welcomes any formal legislative and or changes in existing policy which will increase regulation and monitoring of major emission producers nationally.

The clean air and health improvements of transitioning to cleaner fuels are acknowledged. It is important that any economic analysis of investments must take account of savings from these so-called co-benefits. In many states in the USA, this has been a key driver of investment in electrification of the school bus fleet. Lower noise levels are also a quantifiable benefit to users and urban residents.

#### 2.5 How can we better increase awareness of the health impacts of air pollution?

We welcome the proposed establishment of low emission zones, as well as other demand management measures, in our cities. Our current hybrid urban bus fleet in Galway and Limerick would align well with these measures.

To promote and increase awareness of the importance of clean air, buses can be used as a mobile canvas to drive information awareness in relation to the benefits of zero emission transport. We have recently introduced 61 hybrid buses to our city fleets in Galway and Limerick and will introduce the first fully electric town bus service in Athlone later this year.

#### 2.6 What issues might a national clean air awareness campaign encompass and how could its impact be measured?

A significant degree of cultural shift and behavioural change will be required to ensure success of the strategy. In the transport context, this would encourage active modes and communicate the damage being caused by emissions and the wider benefits of cleaner air. It is suggested that baseline surveys will be required, followed by initiative impact tracking. The provision and communication of conversion incentives may also play a key role – for example for scrapping of an older polluting vehicle.

#### 2.7 What particular metrics or benchmarks do you think should be considered in tracking the progress of a Clean Air Strategy?

In our Sustainability Strategy 2021 to 2030, we have aligned our strategic objectives to the target's outlined in the CAP and have developed relevant KPIs and established a Board Sustainability sub-committee to oversee strategy implementation. As a public body, we report our energy efficiency and carbon emissions through the SEAI's PSMR

site. We would suggest that consideration be given to expanding this site to include NOx, HC and PM estimates for public sector entities and subsequently for private sector enterprises to track delivery against Clean Air Strategy targets.

## 2.8 Are there any other comments you have in relation to the draft national Clean Air Strategy?

Given the CAP's call to the public sector to lead by example, Bus Éireann have fully committed to applying industry best practice and acting as leaders in driving technology and innovation in order to achieve the agreed sectoral targets, on climate and on air quality. Bus Éireann is the first operator in the country to transition a city bus service (Galway) to hybrid vehicles, and later this year will be the first to transition a town bus service (Athlone) to full battery electric operation. We have also deployed hybrid vehicles to Limerick, now making up half the fleet there. In 2021, we commenced operating three hydrogen fuel cell electric double decker buses on a Dublin regional route. The vehicles have zero tailpipe emissions and save approximately 3 tonnes of CO<sub>2</sub> equivalent per bus per month compared to normal diesel operation. The Government has signalled its intention to bring forward a hydrogen strategy this year. We look forward to contributing to further development of this strategy, given the extended range of many of the route profiles that we operate.



Figure 2 - Hybrid vehicle - Galway



Figure 3 - Hydrogen fuel cell powered vehicles - Dublin

Bus Éireann are in full agreement with regard to the required transport modal shift from private car to public transport, as outlined as part of the 'avoid, shift, improve' proposition (page 43). Public transport will need consistent and long-term investment



and development in order to enable continued modal shift, which will lead to an overall net economy-wide emissions reduction. We also welcome strategic transport service initiatives that will help deliver on these outcomes, such as the NTA's BusConnects programme in our regional cities and Connecting Ireland in non-urban areas. Linking towns and communities to cities and large urban areas is our key strength and we look forward to playing an active role in these initiatives.

We would advocate for investment in public transport hubs, with full facilities for compatible travel modes, such as bike/e-bike parking and easy pedestrian access, which will be a key action enabling passengers to make door to door journeys in the most sustainable way.



*Figure 4 – Bicycle parking adjacent to Bus Éireann transport hub at Capwell in Cork*

The NTA have committed to having a zero emission PSO city bus fleet by 2035 in Dublin, Cork, Waterford, Limerick and Galway. Support and continued funding to the NTA is required to make that vision a reality. In Galway, where the city fleet is now fully hybrid, we are seeing positive trends in fuel consumption - with a 25% reduction

since implementation. The EU Clean Vehicles Directive<sup>8</sup>, now passed into Irish law, has been a significant step forward in requiring the transition to cleaner and more sustainable vehicles for public procurement authorities. It currently excludes coaches, which we are confident will form part of future updates.

Our school transport services are in high demand and form an integral part of our business. School bus services in Bus Éireann contribute significantly to the reduction of urban and regional traffic congestion. In Bus Éireann, we currently have only 6% of our school bus fleet at Euro VI emission standard, and we need investment to improve that and move towards cleaner vehicles.

The current level of grants available in the existing Alternative-fuelled Government Grant schemes in Ireland (page 49) could be reviewed to encourage transition and make the scheme more attractive to medium and larger bus operators. Consideration may also need to be given to the fuelling infrastructure that bus and coach operators will utilise, either on their own premises or at common access sites at intermediate points on longer journeys.

As referenced above, public transport will need to grow and improve in order to enable modal shift through initiatives such as Bus Connects and Connecting Ireland. It should be noted that proposed Government free fare or reduced fare initiatives, while welcome in encouraging public transport use, will require additional capacity which will have to be provided, in the main, by diesel-fuelled fleet until EVs become available.

Below are key points for consideration from a Bus Éireann perspective in relation to the transition to cleaner and more sustainable fuels.

- **Infrastructure and investment** - According to the IPPC Assessment Report AR5<sup>9</sup> on Climate Change and Implications for Transport, ‘barriers to modal shift include social norms, existing urban form and the need for new infrastructure with high upfront costs, for example to build electric vehicle charging infrastructure’. Bus Éireann has 17 main depots across the country. Over the next decade, almost all of our depots will need to go through significant upgrades in order to deliver an emission free bus fleet to our roads – starting in

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<sup>8</sup> [https://transport.ec.europa.eu/transport-themes/clean-transport-urban-transport/clean-and-energy-efficient-vehicles/clean-vehicles-directive\\_en](https://transport.ec.europa.eu/transport-themes/clean-transport-urban-transport/clean-and-energy-efficient-vehicles/clean-vehicles-directive_en)

<sup>9</sup> <https://www.ipcc.ch/report/ar5/wg3/transport/>

Athlone and Limerick. In terms of infrastructure and depot readiness, we need continued investment in bus depot infrastructure to support the transition to electric vehicles (EV), whether that be battery electric or fuel cell electric. It is also important to renovate and retrofit existing buildings and garages in order to reduce carbon, improve our energy performance ratings consistently year on year and seek opportunities to harness renewable energy sources to power our buildings. We are aware that the level of grant availability for such buildings work is currently being reviewed by Government.

- **Electrical capacity** – Securing adequate energy supply is another important factor for consideration in the immediate future. The support of ESB Networks is critical in relation to enabling the transition to EV and we would be hopeful that supply of electricity to operate public transport services would be seen as a priority. A large increase in depot Maximum Import Capacity (MIC) will be required at locations that are being made ready for electric vehicles. Applications for two locations (Athlone and Limerick) have already been made and two more will follow next month (Cork and Galway). Consideration of timelines for securing supply is important to ensure we meet EV delivery schedules. The percentage of electrical power generated from renewable sources is also critical to progress i.e. achieving the proposed 70% by 2030 in line with the CAP.
- **Partnerships** – We understand that knowledge sharing and benchmarking bring about many benefits for businesses that are going through change, adaptation and transformation. As we make our transition, we ensure that we reach out to our counterparts in the industry both nationally with Dublin Bus, Translink and Iarnród Éireann and internationally through bodies such as the UITP and the EU Clean Bus Platform. We also benefit greatly from engagement with other commercial state companies, such as An Post and ESB, as well as from our



Figure 5 – Clean Bus Platform logo

partnerships with our suppliers such as Bord Na Móna/AES. Long-term funding partnerships with bodies such as the NTA, CIÉ and the SEAI are perhaps the most critical of all.

- **Cultural shift and behavioural change** - Form an important part of delivering on national emissions targets. In Bus Éireann, we are driving change not only through fleet transformation but through circular economy initiatives such as reuse and redistribution of parts and fleet assets, focused training on waste behaviour, waste auditing and segregation practices, embedding green procurement criteria into our contracts and ensuring our depots conform to ISO requirements. Biodiversity projects on our premises are also helping to build awareness of climate issues.

Sustained investment is required in public transport and active travel modes to deliver the Clean Air Strategy priorities and the sustainable travel growth envisaged in the CAP and indeed in the Department of Transport Sustainable Mobility Policy<sup>10</sup>. Transport demand patterns are changing and will change in the future; change which the bus mode is well-placed to meet in a clean and sustainable way, while still promoting active travel. The structures governing this investment and guiding implementation are obviously important and need to involve all stakeholders. Land use planning must always be in sympathy with public transport infrastructure and submit that the locational flexibility, speed of implementation and comparatively low capital cost that the bus mode offers is of particular importance in Ireland, with our low density population and generally small urban areas.

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<sup>10</sup> <https://www.gov.ie/en/publication/848df-national-sustainable-mobility-policy/>