

Sustainable Mobility Policy Review,  
Department of Transport, Tourism and Sport,  
Leeson Lane,  
Dublin 2,  
D02 TR60.

22 January 2020

**Re: Submission to Sustainable Mobility Policy Review – Greener Buses, Alternative fuel options for the urban bus fleet**

To Whom It Concerns,

Cork Chamber is the leading business organisation in Cork, proactively working to identify and progress developments that are facilitative of economic and sustainable growth. Representing an employer base of close to 1,200 businesses and over 100,000 employees across the region, Cork Chamber is the largest business representation organisation in the south of Ireland.

This submission has been guided by our commitment to delivery of the Cork Metropolitan Area Transport Strategy and the commitment of Cork Chamber to the UN Sustainable Development Goals. Five specific goals have been identified by the Irish Chamber Network which we are actively advocating for throughout our work;



As a nation, Ireland is clearly missing out on opportunities to shift to a clean energy and tech society and the benefits that this could bring to our wider economy, society and environment. From a purely economic perspective, the cost of inaction is far off balance with the benefits of action considering the financial penalties payable of up to €150 million per annum. As a society we need action now across the board in both private and public, with the public sector services having the opportunity to lead and be exemplars of service and technology change, and in the context of a greener bus fleet as change leaders in driving the accelerated development of alternative fuel refuelling infrastructure nationally, and the overall switch by consumers from petrol and diesel.

We are trailing behind our international counterparts in clean technology adoption and the provision of safe and sustainable public transport options and infrastructure for citizens. We're at a crossroads nationally where we must be ambitious and adopt technologies that meaningfully negate transport related emissions and protect air quality. With Ireland's emissions currently nearly 3 million tonnes Mt CO<sub>2</sub> eq over the pathway required to meet EU 2020 targets, urgent action must be taken across all sectors to move to a low-carbon economy and ensure 2030 and 2050 targets are achieved. Growth in emissions from the transport sector continue to be projected, with this attributed to diesel fuel consumption<sup>1</sup> for the most part. Data from the European Environment Agency shows that Ireland is one of only five EU Member States that has seen its emissions increase compared to 1990 levels. The EPA<sup>2</sup> confirms the rising emissions are linked to strong economic growth, as well as growth in the agricultural sector, with transport emissions set to increase from current levels by up to 20% by 2030. To reverse these projections, it is imperative that emission increases are decoupled from economic growth with efforts to achieve this actioned immediately.

Nationally, the transition to low emission and zero emission vehicles must be accelerated, in parallel with infrastructure and network enhancements to encourage modal shift from private car to public or sustainable transport. The value of available capital for the purchase of low emission/ clean technology fleet must be maximised, and while it is certain that more fleet and network enhancements are needed, a balance must be struck. We must be ambitious and adopt technologies that have a future technology pathway, and which are ambitious for climate action in the short–medium term, and long-term. Cork Chamber assert that hybrid electric diesel bus technology is not ambitious, sending a weak signal of intent nationally. The NTA must be supported to achieve an expanded network and fleet with the adoption of a technology that has a future pathway, and which is an exemplar of positive climate action. An appropriate budget must be allocated to the National Transport Authority to fund new technology adoption that has a meaningful and ambitious contribution to national emission reduction targets to 2030 and 2050. While the greatest emissions come from private vehicles and freight, the public bus fleet is a central pillar of national modal shift ambitions and must be an exemplar of best practice, while also a support for new technology and the provision of more widely available refuelling infrastructure, promoting market certainty.

A greatly expanded and enhanced public transport fleet and network is a key component of our meeting emission reduction targets. A low emission fleet, and transport infrastructure and expanded network that encourages a modal shift are key elements of a successful reduction in climate emissions and a behavioural change to increase public transport usage, which is

---

<sup>1</sup> <https://www.epa.ie/pubs/reports/air/airemissions/ghgprojections2018-2040/>

<sup>2</sup> [http://epa.ie/pubs/reports/air/airemissions/ghgprojections2017-2035/EPA\\_2018\\_GHG\\_Emissions\\_Projections\\_Summary\\_Report.pdf](http://epa.ie/pubs/reports/air/airemissions/ghgprojections2017-2035/EPA_2018_GHG_Emissions_Projections_Summary_Report.pdf)

on the increase as seen in Cork City, and which has exponential potential for growth once the service and the reliability of this service are assured.

There is growing concern with domestic and transboundary air borne pollutants, and the issues associated with respiratory and pulmonary health. The Environmental Protection Agency estimate that almost 1,200 people die prematurely every year in Ireland as a result of air pollution. The choosing of new technologies must factor in the emission reduction needed to 2030 as there is an urgency in immediate action to mitigate our emission levels and adopt the most accessible way of achieving this nationally. Now is the opportunity to adopt technologies within our transport fleet to greatly enhance and safeguard air quality. In the case of Cork, with over 20% of the Cork Metropolitan area yet to be developed by 2040, there is an opportunity to have a step change in public transport technology and fuel. The future will require a mixture of technologies and fuel types. Cork Chamber firmly believes that immediate and ambitious action must be taken to meaningfully cut emissions now. In a 2019 study carried out by Cork City Council and the Centre for Research into Atmospheric Chemistry at UCC, air quality in Cork city was measured as one of the worst in Europe recorded by real-time air quality monitoring website PurpleAir, with sensors measuring the level of particulate matter pollution in the air. The Environmental Protection Agency confirmed that data from one of its air quality monitoring stations in the city rated the air quality as “poor” at approximately the same date and time, verifying the PurpleAir findings. While this can be attributed to a mix of sources, particulate matter pollution from transport, and tyre-and-brake wear is one which can and should be addressed through the adoption of clean technology options.

### **5.1 What challenges and issues need to be considered in relation to transitioning the PSO urban bus fleet to alternative fuels and technologies?**

- Transition pathway for low emission to zero emission. Avoiding technology lock-in.
- Waste to energy, and energy availability and resilience.
- Ability to affect meaningful reductions in GHG emissions and transport related pollutants in the short to medium term.
- Cost and value for money/ ability to in tandem increase fleet number.
- Skills and retraining for drivers and maintenance staff.
- Availability of right-hand drive vehicles.

Cork Chamber advocates for the adoption of CNG to biomethane public bus fleet. Biomethane is a low-carbon, methane-based transport fuel produced from anaerobic digestion giving effect to national waste policy, driving towards an efficient circular economy in converting waste to energy, while increasing domestic energy security, diversity and resilience. Biomethane as a fuel is particularly suitable to heavy vehicles such as buses and HGVs. The capability to transition a CNG fleet to Biomethane (biogas) to hydrogen fuel in the future and with no/minimal technology retrofit to fleet or refuelling infrastructure maps a considerable opportunity in affecting an emissions reduction pathway from short to medium term, to long-term with considerable GHG emission and transport pollutant reductions attainable through the increase in percentage of biogas in the gas grid, to zero emission with hydrogen in the future. Gas Networks Ireland are currently investigating the potential of the national gas grid to distribute hydrogen and research in this area should be supported. This

pathway and the immediacy of the benefit to air quality and GHG emissions reductions must be factored into national decision making and life cycle costs in procurement.

At a cost of 20% more than a diesel double deck bus (a diesel hybrid bus is 25% more expensive, and a fully electric bus is estimated as twice the cost of a diesel bus), the value for money is considerable and therefore should not hamper the opportunities to increase fleet numbers.

There is already strong Government support for electric with this technology identified and currently being supported as a preferred option for transport. We highlight the need to accelerate the fully renewable generation of electricity to ensure the source is green and clean, and to this emphasise the urgent need to unlock grid connections and subsidies for the promotion of a thriving renewable energy sector across solar and wind. We caution against any singularity in focusing strictly on one technology and encourage the merits of a diversity of fuel sources/ technology to reinforce fuel security and resilience. Certain technologies will be more appropriate to certain topographies and fleet requirements for example double deck electric vehicles have low battery efficiency.

Cork Chamber questions the ambition of adopting diesel electric hybrid technology as an interim solution for the transition of the national public bus fleet. While electric hybrids are dependable, this technology still runs on diesel. From a Climate Action perspective, we need to make meaningful gains in reducing tail pipe GHG emissions and pollutants such as harmful PM<sub>2.5</sub> to a greater extent than what can be achieved from hybrid electric, and incorporate a fleet that can be transitioned to low emission and zero emission in the future as could be achieved through CNG to Biomethane to Hydrogen (supplied through the GNI grid).

In 2018/2019 the Department of Transport, Tourism and Sport conducted trials of low-emission bus technologies in Cork and Dublin. Within the summary<sup>3</sup> results from these trials it was concluded that hybrid-electric buses run on biodiesel and gas buses run on bio-CNG offer the greatest potential contribution towards Ireland's renewable energy transport targets to 2030. Cork Chamber continue to actively support the Energy Cork proposal for Ireland's Greenest Bus Fleet<sup>4</sup> which advocates for the conversion of the Cork public bus fleet to biomethane (biogas). This proposal is widely supported and identifies the opportunity for Cork as a location of scale, with a fleet size of 120 buses and with one central refuelling station for the public bus fleet in Cork City at Capwell (which has already undergone significant groundworks for CNG/biogas refuelling capability) to transition to low emission technology. There is an opportunity now to transition to low emission fuel and technology cutting our GHG emissions while utilising a low emission public bus fleet as an exemplar for broader behavioural change.

Without a doubt, the future holds great opportunity also for Hydrogen which should be a game changing technology. While we are not there yet, Government must increase the support of research, development and innovation in the advancement of hydrogen-based technology across a spectrum of uses for example transport and heating.

---

<sup>3</sup> <https://assets.gov.ie/34685/0eadd0e2d4704fddb32c42e7d939c7ef.pdf>

<sup>4</sup> <http://www.energycork.ie/index.php/portfolio/irelands-greenest-bus-fleet/>

To achieve a supply of biomethane into the grid and to achieve the benefits of a domestically produced low carbon fuel, government must support the development of a market structure to support anaerobic digestion, through regulatory and infrastructure support and subsidy support at the outset. The development of Anaerobic Digester (AD) hubs and grid access points would be a gamechanger, with a model adopted that mirrors that of Ireland's thriving national dairy cooperative model though coupling AD hubs with grid access. There is significant potential for a market in biomethane to become self-sustainable over time offering a diversified revenue source within the agricultural sector while supporting a net zero carbon fuel. The efforts of Gas Networks Ireland to increase the ratio of fully renewable biomethane in the national gas grid, and the efforts of Eirgrid to decarbonise electricity sources through the development of the interconnector to mainland Europe must be supported and prioritised by market stimulus in our national efforts to cut emissions.

Ireland has the highest potential for biomethane production per capita in Europe with a potential of 13 TWh achievable by 2030 as stated by the EU Commission<sup>5</sup>. This should be a key consideration in the assessment of available options. Added to this the availability of right-hand drive vehicles is a consideration. As this technology is widely deployed in the UK there is a developed supply chain and established suppliers to meet the fleet requirements in Ireland. Efforts are underway nationally via GNI to develop refuelling infrastructure for CNG/ Biomethane buses via the Causeway project<sup>6</sup> and along the Ten-T European transport corridor.

National energy grids must be supported to decarbonise though supporting Gas Networks Ireland and Eirgrid to achieve a higher percentage of clean energy into the national grid. This will greatly enhance the opportunity to decarbonise the economy and to make clean energy more accessible and affordable. Cork Chamber believes a subsidy to support biomethane production is a feasible option in national efforts to decarbonise the national grid. It is already commonplace in Europe and a staple of economic activity in Northern Ireland. Indeed, many Irish producers transport biomethane produced in ROI to Northern Ireland to avail of the market model and price point. Developing a subsidy structure in Ireland would be hugely beneficial to aid efforts to decarbonise our economy.

A domestic feed-in tariff would encourage domestic prosumers and encourage microgeneration and must form part of a suite of measures in decarbonising our economy.

Finally, once a decision is taken on the future technology, a reskilling programme for bus drivers and maintenance depot staff members must be initiated. There should be ongoing training and skilling in driver behaviour, and eco driving. This can positively decrease transport related emissions and pollutants and should be a central pillar in driver continuous professional development.

## **5.2 Based on the additional investment costs associated with alternatively fuelled vehicles and their associated infrastructure, should bus fare structures be modified?**

- Bus fares should not be increased.

---

<sup>5</sup>

[https://ec.europa.eu/energy/sites/ener/files/documents/ce\\_delft\\_3g84\\_biogas\\_beyond\\_2020\\_final\\_report.pdf](https://ec.europa.eu/energy/sites/ener/files/documents/ce_delft_3g84_biogas_beyond_2020_final_report.pdf)

<sup>6</sup> <https://www.gasnetworks.ie/business/natural-gas-in-transport/the-causeway-project/>

If anything, these should be reduced to encourage increased usage and modal shift. In Cork the extension of the red zone bus fare structure in 2017 was hugely welcomed by commuters, translating to increased usage. Prior to this it was cheaper to drive into the City and park for the day from Cork suburban areas than use public transport. Internationally there are a number of countries that have and are reconsidering their public transport pricing structures to increase usage numbers and take cars off the road. For example, Germany has decreased its rail fares for long distance travel as a climate related action<sup>7</sup>. Vienna's<sup>8</sup> one euro a day, 365-day public transport ticketed first introduced in 2012 is also now being considered for 10 German cities including Berlin. This will take cars out of the City and reduce air pollution. In Vienna, passenger numbers have increased dramatically since the operator Wiener Linien lowered the price of an annual season ticket.

Public and sustainable transport networks and infrastructure are fundamental building blocks to successfully decarbonise by 2050. Currently Ireland is drastically lagging our European counterparts in terms of availability of public transport options and sustainable (cycle) network options for commuters. In Cork City alone, census 2016 highlighted a startling rate of car dependency in Cork City with 70% of commuters choosing private car transport. This contrasts dramatically with what can be achieved when a dependable public transport option is brought online, as has happened with the introduction of high-frequency (every 15 minutes at peak times) of the Ballincollig to Cork City Bus Eireann service which has seen an increase of 70% in passenger numbers since its introduction in 2019, resoundingly proving the appetite amongst commuters to opt for public and sustainable options. Our transport networks and infrastructure are not fit for purpose having been chronically underinvested in recent decades. This requires urgent investment. We are at a pivotal point in Cork alone with development at a larger scale than ever seen before. Now is the opportunity to be laying the foundations for a public and sustainable transport network that works for commuters, and that encourages commuter behaviour and patterns that do not detrimentally add to GHG emissions. Bus Connects must get underway immediately to deliver bus corridors and park and rides for Cork. We are now two years into a 10-year National Development Plan without a kilometre of additional bus lane nor a planning application for a single park and ride. In Cork, we have not added cycle infrastructure of note since the depths of the last economic cycle.

It is important to note the improvement in car technology and fuels in recent years, through innovation in biofuels, renewable fuels and the growth in reliability of electric car technology and range. The innovations across the automotive industry will continue to advance, with technology improvements positively affecting upon air quality and national efforts to achieve reductions in harmful GHG emissions. However, cars take up space, and lead to congestion. We believe the immediate opportunity for Cork lies within public and sustainable transport.

The delivery of transport infrastructure is a core priority of Cork Chamber members. In many respects, alongside the provision of accommodation, public and sustainable transport will be the defining enabler of the future prosperity and quality of life for the people of Cork. In equal measure, failure to deliver will be an acute inhibitor of progress.

---

<sup>7</sup> <https://www.theguardian.com/world/2020/jan/02/germany-cuts-fares-for-long-distance-rail-travel-in-response-to-climate-crisis>

<sup>8</sup> <https://www.theguardian.com/world/2019/jul/09/vienna-euro-a-day-public-transport-berlin-365-annual-ticket>



In conclusion, Ireland needs a public transport network that is cohesive, with consistent and uniform ticketing and payment structures across services and service providers, and with easily accessible and understandable transport network information. It is essential that the service is affordable and reliable, with a service frequency that builds consumer confidence. For example the introduction of the high-frequency (every 15 minutes at peak times) of the Ballincollig to Cork City Bus Eireann service has seen an increase of 70% in passenger numbers since its introduction in 2019, resoundingly proving the appetite amongst commuters to opt for public and sustainable options where there is a dependable and high-frequency service available. We need greater integration of smart technologies with the opportunity of real time information panels to drive greater usage. We need immediate investment in cleaner public bus fleet technologies and fuels to meet our local and national climate action commitments, emission reduction targets and due diligence. We need greater and more rapid investment in critical network infrastructure such as bus corridors, bus shelter infrastructure, interchange facilities, and mobile information apps. For example, where we do have real time information panels in Cork City, the information displayed is not reliable and represents an enormous opportunity lost for the service and customer. It is essential that national investment is focused on developing the public bus service infrastructure in a way that builds confidence in the service and increases the reliability on the service. These are the essentials in driving a modal shift for commuters. The commuters and the employing businesses require this level of confidence and service reliability.

### **5.3 Are there international best practice examples around the use of alternative fuels in urban bus fleets that could be applied in an Irish context?**

Across Europe and further afield, Biomethane technology is commonplace. In Nottingham alone, the double-decker bus fleet is powered entirely by biomethane. Nottingham City's transport fleet of 53 bio-gas double deck buses doubled in size in 2019 with the addition of a further 67 buses. Further examples in Lille, Stockholm, Reading and Lisbon to name but a few cities that have opted to implement waste to energy policy and in doing so adopting a carbon neutral bus fleet. It is important to factor in that methane gas has 28 times the global warming impact of carbon dioxide, when biomethane is used as a transport fuel it is 28 times better than letting it escape into the atmosphere as methane. This is a crucial reuse of methane and one which we should not ignore nationally from a climate action as well as economic, resilience, energy security perspective.

Finally, we emphasise the value of public consultations and welcome future opportunities to engage on this and associated topics. We highlight the opportunity to engage with private sector business representation as a partner on actions and believe there are practical benefits in this approach. We believe that this is instrumental to facilitate fully representative discussions of future pathways and actions that are informed via ground up engagement.

Yours Sincerely,



**Michelle O'Sullivan**  
**Senior Public Affairs Executive,**  
**Cork Chamber**