

## Opening Statement

Thank you for giving me the opportunity to address the committee. My name is Dr Colm Byrne, and I am a Consultant Geriatrician and General Physician working with the Frailty Intervention Team in the Mater University Hospital. I am here today representing Irish Doctors for the Environment. Irish Doctors for Environment is a non-governmental agency and registered charity consisting of doctors, medical students and allied healthcare professionals in Ireland who aim to create awareness, interest, and implement action around environment health and the impact it has on our patients' health. The climate crisis is a human health crisis and our future health as a species is inextricably linked to our planet's health. We need to choose the best solutions that reduce emissions AND improve our quality of life.

Electric cars and vehicles are going to be an important part of the transition from internal combustion engines. In the short term many trips will by necessity have to be done by car and EVs will be important for these. However, not every trip needs to be by car. Just as you wouldn't use a combine harvester to pick the kids up from school, driving one kilometre to the shop for milk is not the best use of a car when walking or cycling would be better for most people.

There are long-term health benefits to reducing greenhouse gas emissions through reductions in climate change effects like heatwaves, extreme weather, flooding etc. There are other, shorter-term, simultaneous benefits to reducing greenhouse gases. Most obvious is a reduction in air pollution through a reduction in internal combustion engine vehicles. Research I conducted into air pollution and stroke incidence in Ireland has demonstrated a correlation between traffic produced air pollution and stroke admissions. Other researchers in Ireland have demonstrated similar effects on respiratory and cardiovascular diseases. This is in line with other international studies that have demonstrated that there is no such thing as a safe level of air pollution and recent changes to WHO guidelines have reflected that.

There are, however, other effects of cars to human health than just tailpipe emissions. All cars, including electric propelled cars, produce particulate matter from other sources such as tyre wear, brake pads and through dust agitation for example. Noise pollution is increasingly being recognised as a major health issue, with cardiovascular disease, stroke and dementia among others associated with it. Any noise above 55dB can impact on human health and all cars travelling at speed produce noise pollution through tyre rolling on roads. There is little difference between ICE vehicles and EVs at speeds above about 50km/hr. Another environmental health impact that is being increasingly recognised is the importance of green spaces, from impacts on activity and obesity, to mental health benefits and stress reduction. Trees and green spaces also help us adapt to the effects of climate change by reducing flooding during heavy rain and urban temperatures during heatwaves. Car infrastructure obviously has a large impact on the available space in our cities and towns for green space and again electric cars do not have an impact on this.

Electric cars tend to be heavier vehicles than their equivalent ICE vehicles. This has implications when it comes to road safety. Heavier vehicles will have a greater impact in collisions, especially with vulnerable road users such as cyclists and pedestrians, and lead to lower survival rates in accidents.

Probably the largest impact of cars and other mechanically propelled vehicles is the impact on physical activity. A study recently published by The Lancet Countdown on Health and Climate Change calculated that by prioritising health in our climate plans we have the opportunity to save 1.6 million lives due to cleaner air and 2.1 million lives due to increased

physical activity every year. This is why climate change is such a pressing issue. Additionally, Ireland has an increasingly aging population. As a Geriatrician I know that whilst this can be perceived to be associated with an increase in frailty and physical dependence this is not necessarily an inevitability. Physical activity in combination with a healthy diet can help to reduce the likelihood of frailty and physical dependence. The benefits start accruing at a young age and can persist throughout life, therefore the younger that people start being physically active the better. However, we know that physical activity that is integrated into our daily lives is more sustainable and persistent than having to set time aside in the day for physical activity. With an aging population we will have a more robust population if we can integrate physical activity into our daily lives. But due to multiple reasons we live in a world that is hostile to this. Many of us live in one-off homes with no footpaths or cycle lanes accessible. In our towns and cities the car is king. Pedestrians and cyclists are after thoughts in design, in contradiction to national design manuals and best practice. Cars frequently are parked on footpaths. Our footpaths are in a poor state of repair and often a trip hazard. Many of our public benches have been removed despite the fact that many older people need to stop regularly for a rest. These multiple microaggressions create an environment that is unappealing to be in as a pedestrian or cyclist, especially if they are disabled.

Cycling is great for our health. One study from Denmark demonstrated a 40% reduction in mortality over 12 years in people who commuted by bike as opposed to those who commuted on public transport. Similarly, another Danish study has demonstrated an 8% increase in the concentration levels of children who cycle to school versus those that are driven. Electric bikes can sometimes be seen as “cheating”. However, studies have demonstrated that people will cycle further on ebikes and often end up exerting themselves just as much as on a regular pedal bike as they travel further and more frequently.

When we talk about EVs we need to have a more open mind than electric cars, trucks or vans. We need not just to replace ICE vehicles with EVs but to reduce the number of cars on the road. In 1990 we had 900,000 cars on the road, today we have 2.3 million. 1 million EVs alone will not by themselves bring us in line with our 2030 transport emission targets. There needs to be a shift to alternative transport means. Electric bikes, trikes and cargo bikes will have a big impact on our transition away from ICE vehicles. Electric bikes can extend the cycling range of people, reduce the effort required to get up hills or carry heavy loads, and also extend the range of people who can cycle.

As a family we have recently gone from a two to one car household. I was already cycling to the Sallins station to get a train into Dublin for work therefore we found that my car was sitting on the driveway for most of the week. So instead, we got an electric cargo bike that has been revolutionary to us. We now use it to cycle to most places in the locality, to my wife's family, the supermarket, playground and so on. My wife would not be a regular cyclist prior to this but finds it easy to take out and continues to cycle it even though she is now in her third trimester with our second child. Electric bikes expand the ability of people to cycle. Additionally, in work I have observed an increase in older patients who report cycling on ebikes, even into their 80s. For those with reduced mobility there are e-trikes and even e-cargo trikes.

It is just a case of using the right tool for the job. You wouldn't cycle from South Kerry to Dublin for work on just an ebike. However, if you can combine cycling with bus or train transport whole areas of the country become accessible without having to resort to driving. Safe cycling routes not just in our towns and cities but in our rural villages and countryside are essential to enabling this vision. Appropriate speed limits, quietways and greenways that link villages and towns are key infrastructure points. For instance, despite being a confident cyclist, I would be hesitant to cycle out to my parent's house who live in a rural part of Kildare, with my son in tow. Roads need to be made safer for cyclists and pedestrians to enable a move back away from car transport. There also needs to be safe, well lit cycle

parking at bus stops and train stations, to ensure that the infrastructure is both safe and seen to be safe to encourage people to use it.

Electric cars are part of the solution. However, we have an opportunity to “Build Back Better” as we try and get ourselves out of the many issues our society faces. Climate change is an important issue that we face and addressing it can also have co-benefits in terms of reducing noise pollution, air pollution and physical inactivity and create a more healthy and resilient society. It would be a shame to miss the boat and continue to embed the harmful effects of driving on our society.