

CAST Policy Roundtables Background Paper: Transport and Mobility

To tackle the climate crisis, the United Kingdom has committed to reduce its emissions to ‘net zero’ by 2050. The Welsh Government has separately set legal targets for a 63% cut in emissions by 2030 and 89% by 2040 compared to 1990 levels.

The Committee on Climate Change – the formal body that advises both the UK and Welsh governments – has stated that Wales has made good progress in reducing emissions, but nevertheless is not on track to meet its targets. Plaid Cymru’s Delyth Jewell has previously said that “in the two years since the Welsh Government declared a climate emergency, empty words have been followed by little action”.

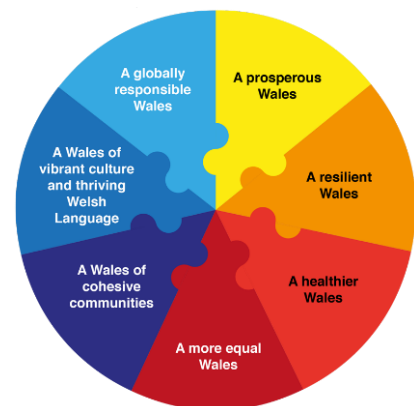
In May 2021, Wales set up a new climate change ministry with the aim of strengthening action in this area. The new Minister for Climate Change, Julie James, has said that in order to have a chance of tackling climate change “we have to do things differently and be willing to be bold”.

It is important that we set ambitious targets, but to meet them requires equally ambitious policy - a recent report from the Committee on Climate Change (2021) warns that current policy in the UK is inadequate to cut emissions quickly enough. It is likely that there will need to be significant changes within industry, to our infrastructure, and across society and our individual lifestyles. For Wales, this must happen while also meeting the country’s well-being goals.

Wales’ well-being goals

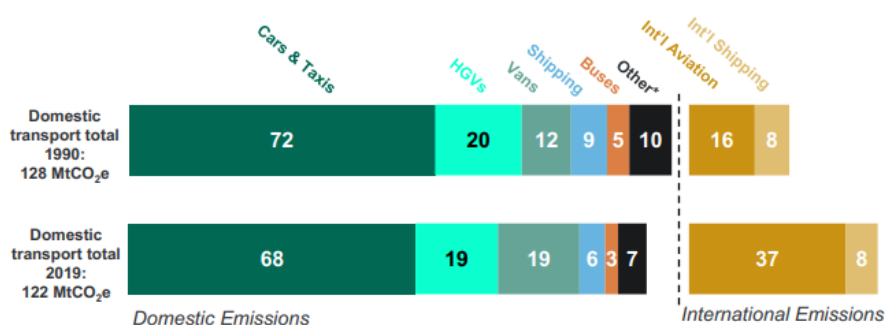
We would like to consider some ideas that are being proposed to help Wales address climate change. To do this we will present you with some information about different targets and policy suggestions from several different sources. This is to help aid discussion in the roundtable discussion that you have been invited to attend on July 29th at 14:00.

In pursuit of reaching these targets, the Welsh Government has identified certain policy areas where changes can be made. In this session, we will be looking specifically at transportation.



Transport and Mobility

The figure below illustrates the breakdown of the transport sector in the UK, detailing the vehicle types responsible for emissions in 1990 and 2019. Cars and taxis used for private travel are the most significant contributors overall. It is also noteworthy that there has been a substantial growth in international emissions over this period.



*Comprises, in 2019: Rail, 1.8 MtCO₂e; Domestic Aviation, 1.5 MtCO₂e; Military vehicles, 2.3 MtCO₂e; Motorcycles, mopeds and other road transport, 1.2 MtCO₂e.

(BEIS 2021)

The three areas of focus for Welsh government policy to improve transport and mobility are: modal shift and demand reduction, active travel, and electric vehicles.

1. Modal shift and demand reduction

One of the ways the Welsh Government hopes to reduce emissions in the transport sector is by “*working to achieve a modal shift from car dependency to sustainable forms of transport.*” One way they hope to achieve this is by increasing the quality of infrastructure around active travel, such as by ensuring pleasant and safe cycling and walking routes. There are also proposals to roll out car sharing initiatives and to consider electric vehicle (EV) car clubs. The Committee on Climate Change suggests there is scope for **average car occupancy to increase from 1.6 today to 1.7 by 2030 and to 1.9 by 2050**. The Welsh Government’s low carbon delivery plan states that provisions should consider both rural and urban contexts, yet there are few details as yet on how to do this. The government also hopes to increase the amount of travel via public transport, such as bus and rail. Options to achieve this include investing in infrastructure to modernise rail stations, increasing frequency of services, and enabling better connectivity with rail, bus, road, and active travel.



The Committee on Climate Change also suggest there is scope to switch some car journeys towards public transport, particularly in urban areas. **Their scenarios assume that between 2-4% of car-kilometres can be switched by 2030, increasing to 5-8% by 2050.**

Other organisations have proposed a greater degree of ambition. For example, the Centre for Alternative Technology, based in west Wales, argues there is a need for cross-cutting transformations across society to reduce emissions from transportation:

“To reach zero carbon in the future, fossil fuel energy used for driving and flying needs to be eliminated. This is not a simple technical matter of switching to different fuels or energy sources but requires changes in attitudes, planning and infrastructure, economic incentives and political and institutional changes” (Zero Carbon Britain: Making it Happen, 2017).

Research undertaken by the Centre for Climate Change and Social Transformations (CAST) has examined public perceptions by asking people to imagine their lives without cars, and instead using more public transport.



Overall, there was a strong negative response to living without a car which was seen as unachievable across society, for a range of reasons. Additionally, shifting to public transport was seen as undesirable. In large part, the wider public are concerned by a lack of comfort and convenience associated with public transport.

When asked for their views on mobility, many people also pointed to a range of personal circumstances in relation to work, family commitments and living rurally which necessitated car use

and/or were seen to make it hard to make greater use of public transport. At the same time, it is expected that car use could be further reduced through factors such as increased homeworking, increased use of IT and technology, and continuing trends towards greater use of internet shopping. In relation to this, the Committee on Climate Change assumes that there is **potential for an overall 1-4% reduction in total car kilometres by 2030, and between 4% and 12% by 2050.**

They conclude that the combined effect of shared mobility, modal shift to public transport, and reduction in car distance can lead to a reduction in demand of 7-16% of total car-kilometres in 2030 and 12-34% by 2050 compared with baseline levels of demand.

2. Active travel

Another policy area the Welsh Government is focussed on concerns *“Increasing Active Travel.”* **There is an ambition for 45% of journeys to be made by sustainable travel modes by 2040** (i.e., public transport, walking, cycling). As part of this, there is a pledge to spend £60million on consultations and development of a safe network for walking and cycling, which could include city bike rental projects such as Nextbike. There is an intention to increase the accessibility and affordability of cycling to socially and economically disadvantaged communities which may not currently have access to these services. Further considerations is given to ways of encouraging citizens to utilise this infrastructure, such as all-ages cycle training, and further expansion of bike-share schemes.

Research has shown that **many car journeys could be shifted to walking and cycling (including e-bikes) by 2030, rising to 9-14% by 2050.** In 2019,

nearly a quarter of journeys in the UK were between under 2 miles (Department for Transport, 2021). A recent study based in Cardiff concluded that walking or cycling could realistically displace around 41% of car journeys, with half of car trips being less than 3 miles (Neves & Brand, 2018), which would also have significant impact on pollution levels in urban areas. Data from another city in the UK found that 60-70% of journeys began and ended within the city limits, yet residents often downplayed the significance of these journeys (Thorman et al., 2020). This illustrates that a substantial amount of driving over short distances is likely to be in areas where public transport and/or active travel are potential alternatives.



Research with members of the public carried out by CAST has found that there was a largely positive response in relation to adopting more active travel. This was perceived to be the most desirable and achievable option for reducing the impacts of mobility (although with the caveat of a wish for continued car ownership for emergencies and longer trips). Some participants described already enacting this option, or wanting to, primarily for health reasons and cost benefits.

3. Electric vehicles

The Welsh Government hopes to *“increase the proportion of vehicles which are electric and ultra-low emission”* and *“plan for and invest in electric vehicle (EV) charging infrastructure.”* This policy involves the use of incentives that promote the affordability of EVs. In addition, the Welsh Government plans to roll out EV charging infrastructure. By investing £2 million, they hope to create a network of rapid charging points to enable longer distance travel by EV throughout Wales. The current goal is that **60% of new car sales in Wales must be ultra-low emission vehicles by 2030.**

An important part of carbon emissions reduction is likely to be a transition towards more EVs. However, some have argued that this alone will not be enough to adequately reduce emissions. There are significant costs associated with the ‘embedded carbon’ within the manufacturing process of EVs, as well as concerns over the disposal of batteries in the future. Some argue that switching to electric cars further entrenches private vehicles as the dominant form of transport and so impedes more transformative and low-carbon visions of transport and mobility. Additionally, because EVs require electricity, there is a need to secure renewable generation of energy for this to achieve desired effects.



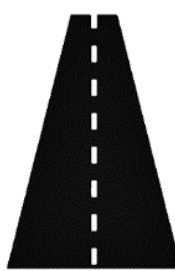
A 2035 outright ban on the sale of fossil-fuel vehicles was brought forward by the UK government from 2040 earlier this year. However, the Committee on Climate Change has warned that this date needs to be brought further forward still, to no later than 2032. While this regulation will make it impossible to buy new non-electric cars, there will remain many cars in circulation and use, with a significant delay in EVs becoming the most common private vehicle. The organisation

Climate Action Tracker have concluded that zero-emission vehicles need to reach a dominant market share by around 2035 for the world to be in line with commitments under the Paris Agreement. At present, there remains much opposition from the wider public who regard EVs as too expensive and impractical.

“To realise such ambitions, large investments in EV infrastructure would be necessary, as the density of charging stations is still not up to par with that of conventional filling stations, even in frontrunner regions. EVs are still more expensive to purchase than other cars, and policy projections still only see a share of around 5% of EVs in the total EU, China and US fleets by 2030.” (Climate Action Tracker)

Summary

Tackling action that is in line with commitments made to reduce emissions in line with international commitments requires considering some combination of the following: reducing the number of overall vehicles and miles travelled, increasing the attractiveness of alternative modes of transport (such as active travel and public transport), and switching remaining vehicles to electric ones. There are a number of policy ideas summarised below that show some of the ways this might be achieved.

ECONOMIC POLICIES  ✓ SUBSIDIZED PUBLIC TRANSPORT; ✓ INCENTIVES FOR CYCLING AND CYCLE PURCHASES; ✗ ROAD TOLL AND CONGESTION CHARGES; ✗ VEHICLE QUOTA POLICIES	INFRASTRUCTURE  • CAR-POOL LANES; • EXPAND CYCLE NETWORKS; • OPEN DEDICATED CYCLE LANES; • INTRODUCE CAR-FREE RESIDENTIAL ZONES; • EXPAND PUBLIC TRANSPORT PROVISION; • NO NEW ROADS TO BE BUILT IN WALES
LEGAL FRAMEWORK  • BAN ON PETROL AND DIESEL VEHICLE SALES; • PARKING AND ZONING RESTRICTIONS;	ELECTRIC VEHICLES  • NETWORK OF CHARGING STATIONS; • PRIORITY PARKING AND BUS LANE ACCESS FOR ELECTRIC VEHICLES; • ELECTROBUSES; • TAX AND FEE EXEMPTIONS; • GRANTS AND INCENTIVES; • CARBON/ECOLABELLING FOR VEHICLE FUEL; • ADOPTION OF BIOFUELS

INFO FROM CAPSTICK ET AL. (2020), EMISSIONS GAP REPORT

We would like you to think about a few questions in advance of the sessions you will be attending.

- Are the targets and ideas outlined above strike **the right level of ambition**? Are there cases where you think they need to be more – or less – ambitious?
- What are the **most appropriate policies and pathways** for realising emissions reduction in transportation?
- How can emissions from transport be addressed while meeting **Wales's well-being goals**?
- What approaches can be taken to enable **attitude and lifestyle changes** among the wider public?
- **What is missing** from the outline described above? Are there underexplored areas within them, or ideas that you think need also to be considered? **Would you like to challenge** any of the claims that have been made?