

Cardiff Capital Region Ultra Low Emission Vehicle Strategy

Cardiff Capital Region City Deal
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Summary

The Welsh Government is working towards Net Zero emissions by 2050. To help do that, a shift to ultra low emission vehicles (ULEVs) needs to happen - improving air quality and bringing economic benefits to the region via job creation and inward investment. (Cenex was commissioned by the Cardiff Capital Region (CCR) City Deal Office to prepare an Ultra Low Emission Vehicle Strategy to set out a plan for boosting the economy and improving the environment by decarbonising transport. Though the strategy is yet to be published, it has already enabled local leaders and operators to plan better for a transition towards electric vehicles.

Our problem

If we're to reach Net Zero by our deadline, the way we travel has to change. However, it's also important to realise the economic impact of travel and transport; we can't expect communities to change if it comes at a huge cost or doesn't have some kind of economic benefit. The ULEV Strategy is designed to help improve air quality, reduce carbon dioxide emissions and encourage regional economic development while supporting local fleet operators, councils and government to work out the best practical ways to get ready for the transition.

Overview

We know that accelerating the shift to ultra low emission vehicles (ULEVs) will play a huge role in cutting carbon emissions and creating sustainable investment and job opportunities in our region.

The CCR City Deal Office commissioned Cenex to prepare an Ultra Low Emission Vehicle Strategy to set out how an accelerated shift to cleaner vehicles can position the CCR as an exemplar region for low emission transport. The CCR is responsible for coordinating the transition across 10 local authorities (LAs) to decarbonised transport. The CCR City Deal is a programme agreed in 2016 between the UK Government, the Welsh Government and ten LAs in South East Wales to deliver regional economic growth through investment, upskilling and improved physical and digital infrastructure.

The transition to ULEVs will help achieve the following objectives:

- Reduced greenhouse gas emissions, contributing towards Wales' Net Zero carbon ambition.
- Improved air quality, bringing non-compliant areas within limit values and improving public health outcomes.

- Increased regional economic development and inward investment.

In 2016, transport accounted for 14% of Welsh emissions, with the sector being our third largest carbon-emitting contributor following the power and industry sectors. By 2030, the Welsh Government aims to have reduced transport sector emissions by 43% from baseline levels - and increasing the uptake of EVs and behavioural change are two of the biggest ways it's going to achieve this.

The aim of the ULEV Strategy was to establish a framework from which public and private sector decision-makers could develop action plans to accelerate the transition to ULEVs. As well as informing the design and implementation of strategies and policies to increase supply and uptake of ULEVs, the project is also set to guide investment decisions and development by a host of regional policymakers, LAs and private sector actors. It'll be used to estimate the recharging and refuelling infrastructure needed to support an effective transition to ULEVs, as well as when and where that needs to be installed. The City Deal Office will signpost stakeholders to the report and will use it as an evidence base to local, national and European funding bids. The public service vehicle (PSV) and freight fleet operators will use it to guide their decision making - ensuring that they select the right vehicle technology and infrastructure needed to support their businesses.

The point of the ULEV Strategy was to complement existing strategies and policies to promote uptake and use of low emission vehicles in South East Wales. The completed strategy forms an evidence base that can be used to support local, national and European funding bids.

Timeline / project progress

Development of the ULEV Strategy started in March 2019 and was completed in February 2020 but hasn't yet been published. Prior to the strategy being written, the CCR City Deal Office commissioned Cenex to assess the need for recharging infrastructure for zero emission capable vehicles at 11 sites across South East Wales. It was that report that made apparent the need for a more strategic appraisal of the fuels and technology that the CCR should be considering for all vehicle types - along with a serious discussion of environmental performance, cost and implementation timelines.

The next steps are to be led by the City Deal office rather than Cenex. They will revolve around:

- Aiming to get funding from the Welsh Government to invest in chargepoint infrastructure.
- Including costs for chargepoints and other measures to support EV uptake in future annual business plans within the City Deal Office.
- Further stakeholder engagement to encourage private sector investment in vehicles (by bus and freight fleet operators) and infrastructure (by chargepoint network operators).
- Working with the 10 LAs in the region to encourage them to lead by example by increasing uptake of low emission vehicles in their fleets and supply chains.

Stakeholders

Key stakeholders include: The City Deal Office, 10 LAs in the CCR, freight operators, bus operators, taxi operators and licensing officers, Welsh Government and Transport for Wales. Workshops were held with these stakeholder groups to shape the ULEV Strategy, including understanding local opportunities and potential barriers to vehicle deployment. That gave them the opportunity to share their vision and concerns about decarbonising road transport in the region.

The City Deal is funded via the CCR Investment Fund, receiving £500m from the UK and Welsh governments and at least £120 million over the 20-year duration of the Fund from the ten local authorities.

The regional DNO is Western Power Distribution (WPD). Cenex recommended that the City Deal Office liaise with WPD to obtain budget estimates and an outline timeline for grid connection for the recommended chargepoint sites.

The Highways Agency was not involved in this work as we were primarily looking at charging for local journeys and in urban areas rather than on motorways and the strategic road network. Travel to work wasn't within the remit of this strategy.

Whole systems approach

This Strategy is part of a broader effort by the CCR to ensure that it's best placed to deliver and benefit from a transition to ULEVs. It complements the promotion of the electrification of public transport including electric buses in Caerphilly, Newport and Cardiff - as well as the decarbonisation of the South Wales Metro. A Taxi Strategy has also been developed by Cenex for the CRR which has come up with a series of recommendations and supporting measures to help drivers make the transition more smoothly to ULEV taxis.

To coordinate transport planning and investment across the region, the CCR Transport Authority has been established as a sub-committee by the CCR Cabinet. The development and integration of a new transport system plays a vital role in the economic transformation of the CCR as it is essential for connecting communities and will enable people to travel. The improved transportation of the CCR can also bring potential opportunities to new areas for further economic development and expansion. This new Authority plays a key role in advising the CCR Cabinet on recommending strategies to achieve transport objectives within the region - working closely with local authorities. One of the biggest priorities is in the delivery of the South Wales Metro - a £738 million project (funded by the City Deal) to electrify the system.

The Welsh Government Energy Service recently published an economic analysis of the investment required for the region to be firmly on the path to Net Zero by 2035 (with the aim of there by 2050). It includes estimates of economic contribution and job creation which serves as both an important evidence base for this work and also a powerful reminder of the scale of the challenge.

Impact

In January 2020, the Capital Region submitted a bid to the Welsh Government ULEV Transformation Fund for a co-investment mechanism that would meet a proportion of the costs. That funding is going to transform the network to ULEV - helping the Welsh Government to meet their targets of zero emissions from buses and taxis by 2028. The bid was submitted on behalf of all 10 LAs and was awarded up to £1.3million to deliver schemes set out in the proposal, with the majority of the funding being for taxi ULEV infrastructure (£1,040,000); the rest will go towards bus (£100k) and transport hub infrastructure (£100k), EV roadshows (£56k), a charging hub in Carmarthenshire (£370k) and solar ports in Gwynedd (£150k).

At the moment, the strategy has not been published so its current purpose is to help the City Deal Office and key stakeholders like the local authorities and Welsh Government decide on investment and practical action. The City Deal Office and other regional policymakers are using it to prioritise actions towards certain technologies and vehicles based on maturity and their expected contribution to achieving environmental objectives. LAs are using the strategy's estimates of what recharging and refuelling infrastructure is likely to be required to support a transition to ULEVs and when it needs to be in place to inform their business planning and investment decisions. The LAs also know what locations are suitable for recharging and refuelling infrastructure so they can invest in developing these sites.

If/when the strategy is published or shared more widely, then:

- Infrastructure providers (such as EV chargepoint and gas refuelling station operators) can use the technology roadmaps and the scenarios for likely ULEV uptake to help develop business cases for setting up new sites.
- Organisations in the fleet supply chain (including manufacturers, converters, retrofit suppliers and after sale support providers) can ensure they are ready to take advantage of growth in new parts of the automotive sector.
- PSV and freight fleets can use the strategy to guide their decision making around selecting the right vehicle technology and supporting infrastructure for their needs.

This strategy does not provide detailed implementation plans or propose specific locations for infrastructure for the private sector fleet operators, as these decisions should be taken by the operators themselves.

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While the Welsh Government and local authorities have fully supported the CCR Strategy and prioritised decarbonisation - making it easier to engage - funding and state aid can be tricky. The Cardiff Capital Region Transport Authority, for example, is currently only formally remitted to make decisions on CCR City Deal funded projects whereas the ULEV Strategy is funded outside of CCR City Deal funds. That means that the recommendations from the ULEV Strategy are being taken forward regionally on a voluntary basis when ideally, they should be mandatory. We also found that the newness of the market and the lack of knowledge and resources was initially a barrier but that's rapidly improving. Slow market uptake and the amount of time it takes to set up a 'try before you buy' scheme was also an issue.

To ensure the project continues to influence the move towards decarbonisation, we've learned from those who have gone before; we've engaged with other regions such as [Nottingham City Council](#) who have already tried similar things. We also concentrated on engaging with passenger transport operators to ensure that other partners were on the journey with us and ensured that public reports, social media, webinars, workshops and presentations were readily available and accessible for the public to understand our plans. We worked with all the major bus operators in the region to understand the opportunities and challenges around switching to low emission vehicles. For the City Deal Office and LAs, that meant gaining a better understanding of the difficulties faced by operators in switching to EVs (e.g. the lack of available vehicles on the market, high upfront cost, cost of installing chargepoints at bus depots). The operators benefited from gaining an insight into likely developments in technologies over the next five-to-ten years while learning from best practice in other regions of the UK and

learning how novel charging technologies (like smart charging and vehicle-to-grid) could help reduce costs.

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