

LOWCVP MEDIA RELEASE

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LowCVP identifies robust 'quick win' technologies in battle against air pollution

Working with the government's Joint Air Quality Unit (JAQU) the LowCVP has identified and assessed some of the most effective vehicle retrofit technologies capable of making a near-term impact on air pollution in Britain. Air pollution is the largest environmental risk to public health in the UK. The UK government recently announced its plans to tackle roadside nitrogen dioxide concentrations and intends to publish a wider Clean Air Strategy next year.¹

Using LowCVP's analysis, a new £30m government grant scheme² is now open to local authorities in England and Wales who are looking to implement accredited, rapid, cost-effective and reliable emissions-reduction retrofit programmes in bus fleets.

Published today, LowCVP's Evaluation Report ([link](#)) on the previous Clean Vehicle Technology Fund (CVTF) and Clean Bus Technology Fund (CBTF) Programmes assessed a range of retrofit technologies tested through these public grant schemes that have been run over the last five years. The outputs have helped to shape a robust and reliable method for assessing competing retrofit technologies and helping authorities and operators to identify effective technologies.

The LowCVP, working with the Energy Saving Trust (EST), has developed the findings from the Evaluation Report to produce the Clean Vehicle Retrofit Accreditation Scheme (CVRAS)³ which will enable the existing fleet of urban vehicles (initially buses, but extending rapidly to a wide range of vehicles) to be fitted with proven emissions-control solutions.

The LowCVP presented the findings to local authority participants yesterday at a well-attended workshop in Birmingham. The Evaluation Report shows how it is critical for any vehicle operators and authorities to get independent and reliable emissions data or certification, before committing to any retrofit programme, and to ensure the technology is both effective and reliable in-service.

The CBTF (2013/2015) and CVTF (2014) programmes were introduced by the Department of Transport (DfT) to help reduce NOx emissions from diesel vehicles in cities experiencing poor air quality. The funding facilitated trials which involved retrofitting 2,137 diesel vehicles using a variety of NOx emission abatement technologies.

¹ UK gov't plan for tackling roadside nitrogen dioxide concentrations in the UK: <https://www.gov.uk/government/publications/air-quality-plan-for-nitrogen-dioxide-no2-in-uk-2017>

² The Clean Bus Technology Fund opened on 11 Sept and closes for bids on 17 Nov. It is a two-year scheme with £15 million available in 2017-18 and £15 million in 2018-19. <https://defra.bravosolution.co.uk/web/login.html> (Rt-hand side, Clean Bus Tech Fund, 11 Sept). A further £10 million has been committed for the delivery of projects in 2019/20 and 2020/21 via a future scheme

³ CVRAS: http://www.lowcvp.org.uk/news/solving-the-clean-air-zone-conundrum-clean-vehicle-retrofit-scheme-provides-key-component-of-defras-aq-plan_3674.htm

JAQU commissioned and funded the LowCVP to undertake an evaluation of the CVTF and CBTF programmes, with the objective of determining the efficacy of different retrofit technologies in terms of reducing tailpipe NOx emissions and evaluating in-service performance.

In addition, the study assessed the impacts of the technologies on other air pollutants and greenhouse gas emissions. It covered twenty-five local authority projects, five vehicle types and seven technologies including exhaust after-treatment such as selective catalytic reduction (SCR), fuel saving systems such as flywheel hybrids and engine conversions (such as the introduction of electric powertrains).

The LowCVP analysed a range of vehicle testing data, before and after retrofit equipment was fitted and when in service.

The key findings of the Evaluation Report were:

- The highest NOx emission reductions (80%-100%) were seen for retrofit SCR after-treatment and diesel bus engine conversion to use an electric powertrain
- Moderate NOx emission reductions (25%-29%) were achieved by retrofit thermal management and flywheel hybrid technologies
- Low NOx emission reductions (3%-6%) were achieved by mild hybrid, hybrid assist and dual fuel CNG conversions

SCR retrofit, as well as showing the highest emissions reduction also demonstrated excellent conformity with testing undertaken 6 months and two years after the initial fitting. The technology achieved high levels of NO₂ emissions reduction (>80%). The majority of retrofit SCR systems were fitted with particle filters, also resulting in high reductions (>75%) in particulate (PM) emissions.

LowCVP's Head of Projects, **Gloria Esposito**, said: "The LowCVP work has highlighted the need for robust and independent vehicle emission testing to demonstrate the performance of retrofit technologies in terms of both air pollutants and greenhouse gas emissions.

"The Clean Vehicle Retrofit Accreditation Scheme builds upon our earlier work, enabling technology providers and vehicle users to focus on a nationally recognised independent system of equipment quality, durability and performance.

"LowCVP's work in developing retrofit technology accreditation over a number of years provides one important part of the solution to tackling the urgent problem of cutting air pollution in our cities."

LowCVP's Managing Director, **Andy Eastlake**, added "With the current focus on city air quality, there are a lot of erroneous claims being made for emissions-saving technology. The accreditation scheme and our technology evaluation will help all stakeholders sort robust retrofits from rogues and rubbish."

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NOTES TO EDITORS

The LowCVP's CVTF & CBTF Programmes Evaluation Report can be found [here](#).

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About the LowCVP

The LowCVP is a public-private, not-for-profit partnership that exists to accelerate a sustainable shift to lower carbon vehicles and fuels and create opportunities for UK businesses. The LowCVP has been - and continues to be - mainly funded by the Department for Transport but with increasing contributions via membership fees and sponsorship/project income. Approaching 200 organisations are members, from diverse backgrounds including automotive and fuel supply chains, vehicle users, academics and environment/not-for-profit bodies. For more information visit: www.lowcvp.org.uk