

# LowCVP

Low Carbon Vehicle Partnership

## Annual Conference 2017

# Cities in Motion: Tackling the Climate and Pollution Challenge

Policies to harness the urban mobility revolution



SUPPORTED BY

**MAYOR OF LONDON**

Tuesday, 27<sup>th</sup> June 2017

City Hall, Queen's Walk, London SE1 2AA

Sponsored by



# WELCOME



It's a pleasure to welcome you all here today for the Low Carbon Vehicle Partnership Conference. This important event brings together senior industry figures and public policymakers to consider key questions relating to the future of our environment, our infrastructure and our transport system.

As Mayor, I'm proud to be hosting you at City Hall and throwing my support behind the transition to a lower carbon society. I recognise that cities will be at the forefront of tackling air pollution and climate change in the years

ahead and that crucial to solving these twin challenges will be accelerating the shift to zero and ultra-low emission vehicles.

That's why I'm doing everything I can to promote the uptake of low emission vehicles, and establish London as a world leader in ultra-low emission technology as part of a wider industrial strategy for our city and our country.

Last week, I set out an ambitious new transport strategy for London. At the heart of this is the most exciting plan for delivering zero emission vehicles of any major city in the world. We'll take unprecedented action to tackle dangerous emissions which blight our streets, with the aim of making our city's road transport system zero emission by 2050 at the latest.

Our strategy will deliver new zero emission zones across London from 2025, and includes detailed plans to decarbonise our public fleets. For example, from next year, we'll only be licencing new electric taxis and by 2037 our aim is that all buses in London will be zero emission.

While I'm determined to cut harmful and damaging emissions in the capital, I know we must work together, across the public and private sector, if we are to pioneer a genuinely successful approach. Only by working in partnership will we be able to mitigate climate change, clean up our poor air quality and unlock new economic opportunities for London and the UK.

So I wish you all a productive conference and hope that through your conversations you can tackle some of these complex issues head on.

A handwritten signature in blue ink that reads "Sadiq Khan". The signature is fluid and cursive.

**Sadiq Khan**  
Mayor of London

# WELCOME

It is our great pleasure to welcome you to the Low Carbon Vehicle Partnership's Annual Conference 2017, *Cities in Motion: Tackling the Climate and Pollution Challenge*.

This year, we are delighted that our conference is supported by the Mayor of London and we look forward to hearing from Shirley Rodrigues, Deputy Mayor of London.

The conference will focus on how city-level policy needs to adapt to tackle the twin challenges of climate change and air pollution in an era of 'mobility revolution'. The agenda will also include discussions on changing technologies: cleaner, low carbon urban vehicles and fuels and changing practices, improved efficiencies and innovation.

We are delighted to have attracted so many high quality speakers, panelists and contributors to this year's event and we would like to express our thanks to Shell for sponsoring it.

Please do join us at the end of the Conference for drinks and networking at the VIP Reception in 'London's Living Room'.

Have a great day!



**Andy Eastlake**  
**Managing Director**  
**LowCVP**



**Darran Messem**  
**Chairman**  
**LowCVP**

**LowCVP**  
**Low Carbon Vehicle Partnership**

# AGENDA

9.00 Registration and coffee (Map room)

9.45 Introduction and welcome  
Session chair: **Andy Eastlake**, Managing Director, LowCVP

## OPENING PLENARY SESSION (Chamber)

**The environmental challenge, the urban mobility revolution & the UK's industrial opportunity**

9.50 Keynote address  
**Shirley Rodrigues**, Deputy Mayor of London for Environment & Energy

10.05 What's the problem? The drivers behind a new agenda for road transport  
**James Thornton**, Chief Executive, ClientEarth

10.20 A vision of mobility in future cities  
**Dan Byles**, Vice President, Head of Corporate Development, Living PlanIT

10.35 The city mobility revolution and the energy to drive it  
**Michael Copson**, Hydrogen Business Development Manager, Shell New Energies

10.45 Q&A

11.00 Tea and coffee break (Map Area and Viewing Gallery)

## PLENARY SESSION TWO (Chamber)

**Moving people in future cities**

11.30 Session chair: **Alex Williams**, Director of City Planning, Transport for London

11.35 What's driving the future? Shared mobility in tomorrow's cities  
**Christophe Arnaud**, Managing Director, Bolloré BlueSolutions UK

11.45 Cleaner, greener mass transit  
**Claire Haigh**, Chief Executive, Greener Journeys

11.55 Tackling the EV infrastructure challenge & maximising electric miles  
**Andrew Benfield**, Group Director of Transport, Energy Saving Trust

12.05 Question and Answer Session  
Including **Richard Gordon**, Commercial Director, London Taxi Company

12.45 Lunch, networking and exhibition viewing (London's Living Room)

## AFTERNOON SESSION

14.00 Keynote address  
DfT/Ministerial representation to be confirmed (at the time of going to print)

## PLENARY SESSION THREE (Chamber)

### Moving freight in future cities

- 14.20 Session chair: **Justin Laney**, General Manager Central Transport, John Lewis Partnership
- 14.25 **Meeting the challenge; London's vision for cutting freight emissions**  
**Lilli Matson**, Head of Strategy and Outcome Planning, Transport for London
- 14.35 **CVs in the city; a manufacturer perspective**  
**Mark Harvey**, Director, Urban Electrified Van (UEV Transit) Programme, Ford Motor Company
- 14.45 **'Greener' urban logistics – a practitioner's view**  
**Peter Harris**, Director of Sustainability, UPS
- 14.55 **Cleaner fuels for future cities**  
**Nina Skorupska CBE**, Chief Executive, Renewable Energy Association
- 15.05 **Q&A**
- 15.15 **Tea and coffee break (London's Living room)**

## FINAL PLENARY SESSION (Chamber)

### Future city transport – the policymakers' perspective

- 15.40 Session chair: **Darran Messeem**, Chairman, LowCVP
- International perspectives
- 15.45 **Cutting carbon in mega cities; international best practice**  
**Nina Skero**, Managing Economist, Centre for Economics & Business Research
- 15.55 **International exemplar in low emission transport policy**  
**Trude Rauken**, Senior Adviser, Office for Climate and Energy, Department of Environment and Transport, The City of Oslo
- 16.10 **Q&A**
- National perspectives

- 16.15 **GoUltraLow Cities (Panel discussion)**  
Chair: **Natasha Robinson**, Head, Office for Low Emission Vehicles (OLEV)
- Representatives of 3 Go Ultra Low Cities:**
- **Brian Matthews**, Head of Transport Innovation, Milton Keynes Council
  - **Chris Carter**, Transport Strategy Manager, Nottingham City Council
  - **Gary McRae**, Corporate Fleet Manager, Dundee City Council
- 17.05 **Progress through partnership**  
**Andy Eastlake**, Managing Director, LowCVP
- 17.15 **Final summary and welcome to reception**  
**Darran Messeem**, Chairman, LowCVP
- 17.20 **Formal conference ends**

## 17.30 NETWORKING SESSION (Chamber)

### VIP Drinks Reception (London's Living Room)

- 19.00 Post-conference reception closes

# SPEAKERS



**Andy Eastlake**  
Managing Director  
LowCVP

Andy was appointed as the LowCVP's Managing Director in April 2012, after serving both on the Board and as chair of the Members Council for many years.

Andy has a strong background in vehicle engineering, specialising in powertrain developments, fuel economy and emissions.

He was formerly Group Head of Commercial and Projects at Millbrook Proving Ground where he led the work on powertrain test and development programmes and alternative fuels for a variety of global OEM customers.

As Head of Laboratories, Andy was responsible for all technical aspects of the Millbrook business and for government and European legislative relations. He joined Millbrook after a year's training with Vauxhall Motors by whom he was sponsored to study for a degree in Mechanical Engineering at Southampton University. He is a Fellow of the Institution of Mechanical Engineers.



**Shirley Rodrigues**  
Deputy Mayor of  
London for Environment  
& Energy

Before joining City Hall, Shirley was the Acting Executive Director for Climate Change at the Children's Investment Fund Foundation (CIFF), an independent philanthropic organisation that works to transform the lives of poor and vulnerable children in developing countries.

Shirley has an impressive track record of developing and implementing new environmental policies in London. She is no stranger to City Hall, having worked in senior environmental policy roles from 2005 to 2009, helping to implement the London Low Emission Zone and programmes to retrofit London's

residential and commercial buildings. She helped establish CIFF's cities and climate strategy and represents CIFF on the board of the C40 Large Cities Leadership Group – a network of global cities committed to addressing climate change.

Using her wealth of environmental expertise, Shirley drives forward the Mayor's hard-hitting plans for tackling air pollution across the capital. She also oversees the delivery of Energy for Londoners - helping Londoners generate more low carbon electricity, boost London's recycling rates and cut landfill.



**James Thornton**  
Chief Executive  
ClientEarth

James is an environmental lawyer and social entrepreneur. A member of the bars of New York, California and the Supreme Court of the USA, and a solicitor of England and Wales, he moved from Wall Street law practice to found the Citizens' Enforcement Project at NRDC in New York, where he brought some 80 federal lawsuits against corporations to enforce the Clean Water Act after the Reagan Administration had stopped enforcing the law. He won these cases and embarrassed the government who started enforcing the law again.

James founded ClientEarth – Europe's first public interest environmental law organisation – in 2007. Now operating globally it uses advocacy, litigation and research to address the greatest challenges of our time – including biodiversity loss, climate change, and toxic chemicals.

The New Statesman named James as one of 10 people who could change the world. The Lawyer has picked him as one of the top 100 lawyers in the UK. In 2016, he was named as one of the 1,000 most influential people in London and also won Leader of the Year at the Business Green Awards.



**Dan Byles**  
Vice President, Head of Corporate Development  
Living PlanIT

Dan is responsible for building and leading corporate level strategic partnerships and alliances including design wins, strategic partners and investors, managing the company deals pipeline and participating in the assessment of target markets.

Dan chairs the independent UK smart city trade association SmarterUK, bringing together stakeholders from across sectors, championing smart city development within the UK and helping to shape the strategic policy environment for smart city solutions.

Before joining Living PlanIT, Dan was the Member of Parliament for North Warwickshire serving on both the Energy and Climate Change and the Science & Technology Select Committees. He has strong expertise in energy, environment and clean tech policy, serving on the Parliamentary Bill Committee for the Energy Act 2013 and chairing a number of high profile All-Party Parliamentary Groups.

Dan was the founding Chair of the All-Party Parliamentary Smart Cities Group and a member of the UK Government's Ministerial Smart City Forum.



**Michael Copson**  
Hydrogen Business Development Manager  
Shell New Energies

Michael has been a part of Shell New Energies for the last 10 years, recently making the move to hydrogen to co-ordinate business development in Europe and South East Asia.

He was previously responsible for commercialising products from Shell's Gas-to-Liquids ventures globally, leading downstream efforts in both existing and new territories.

various engineering organisations in both automotive and motorsport industries.

Outside of the office Michael is a keen cyclist and enjoys restoring historic racing cars.

An engineer by training, (Michael is a Fellow of the Institute of Mechanical Engineers) he joined Shell in 2002 to lead their Formula 1 efforts with Ferrari after holding numerous positions with



**Alex Williams**  
Director of City Planning  
Transport for London

As the Director of City Planning at TfL, Alex's responsibilities include working with the Mayor to develop and deliver his Transport Strategy for London; develop and gain powers for major infrastructure projects such as tube extensions and new river crossings; provide transport advice on land use planning applications referable to the Mayor; manage relationships with London boroughs and ensure that TfL's work is underpinned by a robust evidence base through modelling and analysis.

Alex was formally appointed to the post in April 2017 having held it on an interim basis since April 2016. Before that he was Director of Borough Planning (from 2007). Prior to TfL he worked in the London Borough of Camden and the London Borough of Ealing.

# SPEAKERS



**Christophe Arnaud**  
Managing Director  
Bolloré BlueSolutions UK

Christophe is the Managing Director of Bolloré BlueSolutions in the UK and is responsible for the development of electric mobility and renewable energy storage solutions since July 2014.

In this role, Christophe developed and implemented the 'London' project whose objectives are the deployment of a charging infrastructure for the use of all types of users of electric vehicles and the launch of a 100% electric car sharing service.

He is responsible for a £100 million budget to deliver this unprecedented

infrastructure and leads complex negotiations with private partners, local authorities and political influencers in London.

Previously, Christophe worked for another part of the Group Bolloré, BlueSolutions in France and IER (2007-2014), which designs and sells solutions to manage the flow of passengers and baggage in airports and railway stations. He began his career in the automotive industry as a product manager at Valeo and then joined Faurecia as sales manager in the "Automotive Seating" division.



**Claire Haigh**  
Chief Executive  
Greener Journeys

Claire Haigh is Chief Executive of Greener Journeys, a coalition of the UK's major public transport groups and other supporters committed to encouraging people to make more sustainable travel choices. She is a Director of the Low Carbon Vehicle Partnership (Low CVP) and a columnist for the monthly magazine Transport Times. She has also been an Advisor and Board Member of Transport for Greater Manchester.

Previously she was Project Director for Journey Solutions, where she was responsible for PLUSBUS.

Other previous roles include Sales Director for Chameleon Press printing company; and, Account Executive for DDB advertising agency. She read History and German at Magdalen College Oxford. She is a Chartered Fellow (FCILT) of the Chartered Institute of Logistics and Transport, and a Fellow of the Royal Society for the Encouragement of Arts, Manufactures & Commerce (FRSA).



**Andrew Benfield**  
Group Director of  
Transport  
Energy Saving Trust

Andrew leads the Energy Saving Trust's transport advice and support services to UK businesses, helping them to achieve cost savings, reduced carbon emissions and achieve better local air quality.

After starting his career at Hertz UK as Business Marketing Manager, Andrew joined the Energy Saving Trust, the UK's leading energy saving charity, in 2002.

He works with government funders across the UK (Department for Transport, Transport Scotland, Office of Low Emission Vehicles and Transport for London) to develop EST's specialism in low emission advice to business fleets and the implementation of Ultra-low Emission Vehicles and infrastructure. Private sector clients include the BVRLA, Heathrow Airport and Uber.



**Richard Gordon**  
Commercial Director  
London Taxi Company

LTC is the leading global manufacturer and retailer of fully accessible, purpose-built London Taxis. LTC's famous black cabs are instantly recognizable and their robust design means they are renowned for their ability to cover hundreds of thousands of miles during a lifetime of use.

In 2017 LTC will introduce its new range of extended electric taxis to major cities in the UK and Europe. This electric vehicle will reduce fuel costs for drivers, provide cities with a new purpose built e-mobility solution as well as provide significant air quality and health benefits. We believe that

by demonstrating that taxis – vehicles with the most demanding duty cycles – can successfully electrify then we have proved any vehicle can make the transition.

Richard is an experienced, internationally-recognised and respected Commercial Director with an exceptional breadth of knowledge of the automotive industry.

Prior to joining LTC in 2015 to launch the next generation cab, Richard held Directorship roles internationally with iconic brands such as Bentley, Ferrari and Jardine Motors Group.



**Justin Laney**  
General Manager Central  
Transport  
John Lewis Partnership

Justin Laney manages the John Lewis Partnership fleet of 3,200 commercial vehicles and 1,500 cars. One of the main priorities is reducing emissions, both of carbon emissions and those affecting air quality, in a fleet already recognised for its environmental credentials. Areas of focus are using bio-methane in place of diesel in heavy trucks, clean transport refrigeration, high capacity vehicles, aerodynamics, and other methods based on good science and rigorous testing.

Justin's career started at London Transport (Buses), having graduated in Mechanical Engineering at Liverpool University. He also worked at UPS for 20 years, managing fleets in EMEA as well as the UK.



**Lilli Matson**  
Head of Strategy and  
Outcome Planning,  
Transport for London

As Transport for London's Head of Strategy and Outcome Planning, Lilli leads TfL's strategy and planning of surface transport priorities and projects – with a focus on managing freight and transport demand, planning for bus priority across London, promoting walking, cycling, accessible public transport and improving road safety. She has worked at TfL since 2006.

Lilli was a member of the UK Government's Commission for Integrated Transport 1998-2004 and ran her own transport consultancy for five years, leading major projects for a range of clients including the

Department for Transport, DCLG, Government agencies, local authorities and the voluntary sector.

Prior to working as a consultant, Lilli led UK countryside group Campaign for the Protection of Rural England's transport work for seven years, influencing national transport policy during this time.

# SPEAKERS



**Mark Harvey**  
Director, Urban Electrified  
Van Programme  
Ford Motor Company

In this role since March 2017, Mark is responsible for delivery of the mobility and services elements of the Transit Custom PHEV programme, including management and delivery of the pilot fleet in London in partnership with TfL. He will also be responsible for expansion markets for the programme in future years.

Mark's prior role was as Dunton Site Manager, being responsible for all prototype, testing and site maintenance activities on one of the UK's largest Automotive R&D sites, directly leading a team of over 800 employees. Prior to this, he was also

the Commercial Vehicle Programme Manager, leading many programmes including the 2013 Van of the Year winning Transit Custom.

Mark has over 25 years of experience within Ford across a range of engineering activities, including assignments in the US and with Mazda in Japan. He joined Ford as a sponsored student directly from school, holding an MEng in Mechanical Engineering from the University of Southampton.



**Peter Harris**  
Director of Sustainability  
UPS

Peter is a Chartered Engineer and Member of the Institution of Mechanical Engineers with a Masters degree in Engineering from Cambridge University.

He spent two years as a volunteer agricultural engineer with Voluntary Service Overseas in Indonesia, developing better ways of storing rice. Peter also worked for Transport for London.

he spent five years on assignment to Corporate Compliance, developing and implementing a system to manage regulatory compliance outside the U.S. For the past 7 years Peter has been UPS's Sustainability Director for Europe.

He began his career at UPS as UK Automotive Director 28 years ago. Peter then became UPS's UK Industrial Engineering Director, following which



**Nina Skorupska CBE**  
Chief Executive  
Renewable Energy  
Association

Nina is the Chief Executive of the Renewable Energy Association (REA), the largest trade association with over 600 company members. The REA covers all renewable technologies including electricity, heat, transport and circular economy and includes energy storage and electric vehicles in its portfolio of representation.

With over 30 years of working in the energy industry, her career started as a fuel specialist but moved quickly to managing power stations for RWE npower. After several senior roles within the RWE Group, her career with them culminated in her joining the

Board of the RWE's Dutch business, Essent, as Chief Technical Officer, responsible for their electricity generation portfolio including new energy and sustainability developments.

She is also currently Vice-President of the European Renewable Energy Federation, proud member of the Board of Women in Science and Engineering Campaign and joined the Board of TfL in September 2016. Nina was also awarded a CBE in the 2016's New Year Honour's list for her contribution to renewables and equality in energy.



**Darran Messeem**  
Chairman  
LowCVP

Darran is Chairman of the Low Carbon Vehicle Partnership and has served as a Board Director since 2005. Professionally he is International Director for the Carbon Trust and Managing Director of Carbon Trust Certification, and has worked for the Carbon Trust since 2010.

Prior to joining the Carbon Trust, Darran was Vice President, Fuel Development for Royal Dutch Shell. He held a variety of roles at Shell in the UK and internationally, including responsibilities for fuel sales to transport fleets and fuel development with motor manufacturers.

Darran joined Shell from Cambridge University with a First Class degree in Economic Geography and subsequently undertook a post-graduate diploma in marketing.

He is a Fellow of the Royal Geographical Society, and a Fellow of the Chartered Institute of Marketing.



**Nina Skero**  
Managing Economist  
Centre for Economics &  
Business Research

Nina is Head of Macroeconomics at the Centre for Economics & Business Research, a leading economics consultancy based in London. She leads Cebr's UK forecasting as well as bespoke research across a variety of sectors. Her recent projects include the Qualcomm Urban Mobility Index and the Arcadis Sustainable Cities Index.

She regularly provides commentary for the national and international media.



**Trude Rauken**  
Senior Adviser, Office for  
Climate and Energy  
The City of Oslo

Trude Rauken works as a senior adviser on climate and energy to the City of Oslo at the Department of Environment and Transport. Her main area of responsibility is on policy advice for reaching the city's ambitious climate targets and she coordinates the city's international climate and environment work.

Before joining the city she worked in academia. In her years as a research fellow she focused her scientific work on the role and institutional capacity of local level government in connection with climate change, the need for horizontal coordination in

connection with local climate action and how network cooperation helps local governments in addressing climate change.

# SPEAKERS



**Natasha Robinson**  
Head  
Office for Low Emission  
Vehicles

Natasha is head of the Government's Office of Low Emission Vehicles (OLEV) - a cross-Whitehall team which is responsible for placing the UK at the global forefront of development and deployment of ultra-low emission vehicles (ULEVs). OLEV is responsible for developing and delivering a package of measures to create an early flourishing market for ULEVs, charting a longer-term path to mass market and ensuring that the UK makes the most of the economic opportunity this offers.

Before she joined OLEV in November 2016 she had various roles within the Department for Transport. This has included three years in finance with overall responsibility for planning the Department's medium and long-term budgets, including coordinating the Department's approach to the 2013 Spending Round and three years as Principal Private Secretary to the Secretary of State for Transport.



**Brian Matthews**  
Head of Transport  
Innovation  
Milton Keynes Council

Brian has been with Milton Keynes Council since 1997, previously working for Buckinghamshire and Northamptonshire County Councils.

Brian has taken up a role leading on the development and delivery of the Council's programme of Transport Innovation. This builds on Brian's experience of managing the delivery of MK's Electric Bus Project (UK's first fully electric bus service) and leading on the Council's Go Ultra Low cities programme - A £9m programme designed to increase the number of ULEVs in Milton Keynes.

Brian also leads the 'Cities' research programme for Milton Keynes Council, part of the UK Autodrive self-driving vehicle programme which is, perhaps, the largest and most complex driverless vehicle demonstration trial currently underway within the UK.



**Chris Carter**  
Transport Strategy  
Manager  
Nottingham City Council

Chris is the Head of Transport Strategy for Nottingham City Council. He has twenty five years local government experience starting out as a transport planner on the Nottingham tram project for Nottinghamshire County Council before transferring to Nottingham City Council in 1998.

He is responsible for the preparation of Nottingham's statutory Local Transport Plan and for the development of the local transport programme including D2N2 Growth Fund major projects.

Projects he has contributed to include Nottingham's innovative Workplace Parking Levy. He is inputting into the development of the Midlands Connect Strategy as well as ensuring the East Midlands HS2 Hub Station will be properly connected to the local transport network. He is also working to make Nottingham more cycle friendly and overseeing the City's behaviour change and Go Ultra Low programmes.



**Gary McRae**  
Corporate Fleet  
Manager  
Dundee City Council

Gary graduated from Robert Gordon University with an honours Degree in Business Studies. He worked in the haulage industry for seven years in Dundee before joining Dundee City Council in 2005.

Gary has been involved with electric vehicles and charging infrastructure for the last five years and has overseen the introduction of the largest local authority fleet of electric vehicles in the UK as well one of the largest urban rapid charging networks in the country.

# EXHIBITION



## TEVVA MOTORS

Tevva Motors develops and produces electric, range-extended drivetrains for 7.5t and heavier trucks, primarily for the back-to-base urban delivery market.

Our innovative drivetrain consists of an all-electric drive motor powered by a Lithium iron phosphate battery pack. The battery can be re-charged by an on-board generator (Range Extender) which is driven by a small capacity internal combustion engine running at a fixed, high-efficiency RPM.

Patented Predictive Range Extender Management Software (PREMS) ensures that the Range Extender operates only for the bare minimum time each day whilst usage of grid electricity charge is maximised without any risk of the vehicle ever running out of range.

### Tevva truck

The Tevva 7.5 Tonne demonstrator vehicle offers a payload in excess of 3 tonnes and is capable of 100 miles on grid charged battery power alone. That's 100 miles with ZERO CO2; ZERO NOx and ZERO Particulates. The range extender gives the truck effectively unlimited overall range.

Assuming a single shift pattern on a 7 day working week; an urban delivery operator can expect fuel savings of at least £700 per month. The Tevva truck will be available on a full repair and maintenance operating lease basis at a premium of just £450 per month over the cost of an equivalent diesel vehicle.

The Tevva truck is also congestion charge exempt. Available for delivery at 7.5 – 14Tonnes GVW with a range of body types from March 2018.

# HJS

## Emission Technology

HJS Emission Technology GmbH & Co. KG has many years of experience and expertise in the field of automotive exhaust gas after treatment. Approximately 450 skilled employees are engaged in the development, production and marketing of modular systems for reducing pollutant emissions. Our innovative environmental protection technologies can be used either as original equipment or for retrofitting in buses, coaches, passenger cars, commercial vehicles and a wide range of construction equipment applications. HJS specialises in systems for diesel engines especially for reducing the emissions of soot particles (PM) and nitrogen oxides (NOx). All HJS systems meet UK Ultra Low Emission Zone and Clean Air Zone requirements and are certified and approved at Millbrook Proving ground in accordance with authority requirements.

HJS are based in Menden in Central Germany with a dedicated UK support and technical facility operating in Bracknell, Berkshire. They have firmly established relationships with some of the UK's largest bus operators and offer them a cost effective way of complying with the Ultra Low Emission Zone (ULEZ) and Clean Air Zones without having to purchase new vehicles.



Vantage Power: Diesel to hybrid retrofit systems for buses

Vantage Power is a fast growing, high tech company based in Greenford, London. The team design and manufacture advanced energy storage systems, telemetry and hybrid drive trains for buses.

Retrofitting existing diesel buses with the Vantage Power B320 advanced hybrid drive train enables local authorities and bus operators to dramatically reduce bus pollution and meet their Clean Air Zone and ULEZ targets for a fraction of the cost of buying new buses.

In service running with the B320 has also shown a 37% – 45% reduction in fuel consumption and engine off time of >50%. The engine off time is highly significant as it is occurring at bus stops and in slow moving traffic, which are typically pollution hotspots.

The Vantage Power solution also comes with a life-time warranty on the battery, the ability to run with zero emissions in selected geofenced areas and inbuilt telemetry and remote diagnostic monitoring which significantly reduces maintenance costs.

The company has won an array of awards including, UKBA Nest Investment in Internet of Things 2016.

The Duke of Edinburgh recently visited Vantage Power to celebrate the introduction of London's first retrofitted hybrid bus.

# EXHIBITION



## Toyota Mirai

Launched in November 2014, the Toyota Mirai is amongst the most fuel efficient hydrogen fuel cell vehicles (FCV) available. Hydrogen can be generated using a wide range of natural resources: from man-made by-products as well as natural renewable energy sources like solar and wind power. FCVs are able to generate their own electricity from hydrogen, supporting further energy diversification. The introduction of the Mirai to the UK adds weight to Toyota's commitment to delivering superior environmental performance with the performance expected of any next-generation vehicle.



## BMW i3

The first BMW Group model to run entirely on electric power, the BMW i3 is one of the world's best-selling, and most energy-efficient, all-electric cars. The BMW i3 sources its energy from a lithium-ion storage cell system, providing a range of up to 160 kilometres when fully charged.

The BMW i3 demonstrates a commitment by BMW to creating premium, innovative vehicles with a character defined squarely in terms of sustainability. The i3 has won two World Car of the Year Awards as well as an iF Product Design Gold Award.



## Mitsubishi Outlander PHEV

The Outlander PHEV (Plug-in Hybrid Electric Vehicle) enables both environmentally-friendly all-electric operation for everyday use as well as hybrid mainly motor-powered operation for longer journeys.

The Outlander PHEV has a cruising range of up to 32.5 miles in purely electric operation, as well as a cruising range of up to 500 miles in its hybrid operation. It has come to dominate the UK EV and PHEV sector since its unveiling in 2012.



Lowering Emissions  
from Commercial Vehicles

LoCITY is a collaborative, industry-led programme. Working with freight and fleet operators, vehicle manufacturers, fuel technology providers and local and national government, LoCITY is increasing the supply and uptake of low emission commercial vehicles and associated infrastructure. It is also supporting the freight and fleet industry to prepare for the Ultra Low Emission Zone and meet the Mayor's ambition for cleaner air.

LoCITY is developing new procurement standards to create a more level playing field for low emission commercial vehicles.

More information available at [www.locity.org.uk](http://www.locity.org.uk)

# Low emissions, Top performance

Proud supporters of the LowCVP Annual Conference 2017

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## PROVIDING THE FUELS OF THE FUTURE

**A range of different vehicle and fuel options will be required to meet growing demand for transport in a low carbon world.**

Innovations in engine, lubricants and fuel design can help improve efficiency and reduce emissions from conventional vehicles.

In the future, the use of other transport fuels, including biofuels, liquefied natural gas and electric vehicles powered by both hydrogen and batteries will increase as we transition to a low carbon energy system.

INFLUENCE



# JOIN THE LOWCVP



CONNECT



COLLABORATE

If your organisation has a stake in the UK's move to low carbon vehicles and fuels you should join the Partnership and help to accelerate the low carbon shift.

## LOWCVP MEMBERS HAVE THE OPPORTUNITY TO:



### CONNECT

With privileged access to information, you'll gain insight into low carbon vehicle policy development and into the policy process.



### COLLABORATE

You'll benefit from many opportunities to work—and network—with key UK and EU government, industry, NGO and other stakeholders.



### INFLUENCE

You'll be able to initiate proposals and help to shape future low carbon vehicle policy, programmes and regulations.