

Lower Carbon and Cleaner Air: Opportunities for Buses

Low Emission Bus Workshop Cardiff

Principality Stadium, 19th July



LowC^{VP}
Low Carbon Vehicle Partnership

Connect | Collaborate | Influence



Daniel Hayes

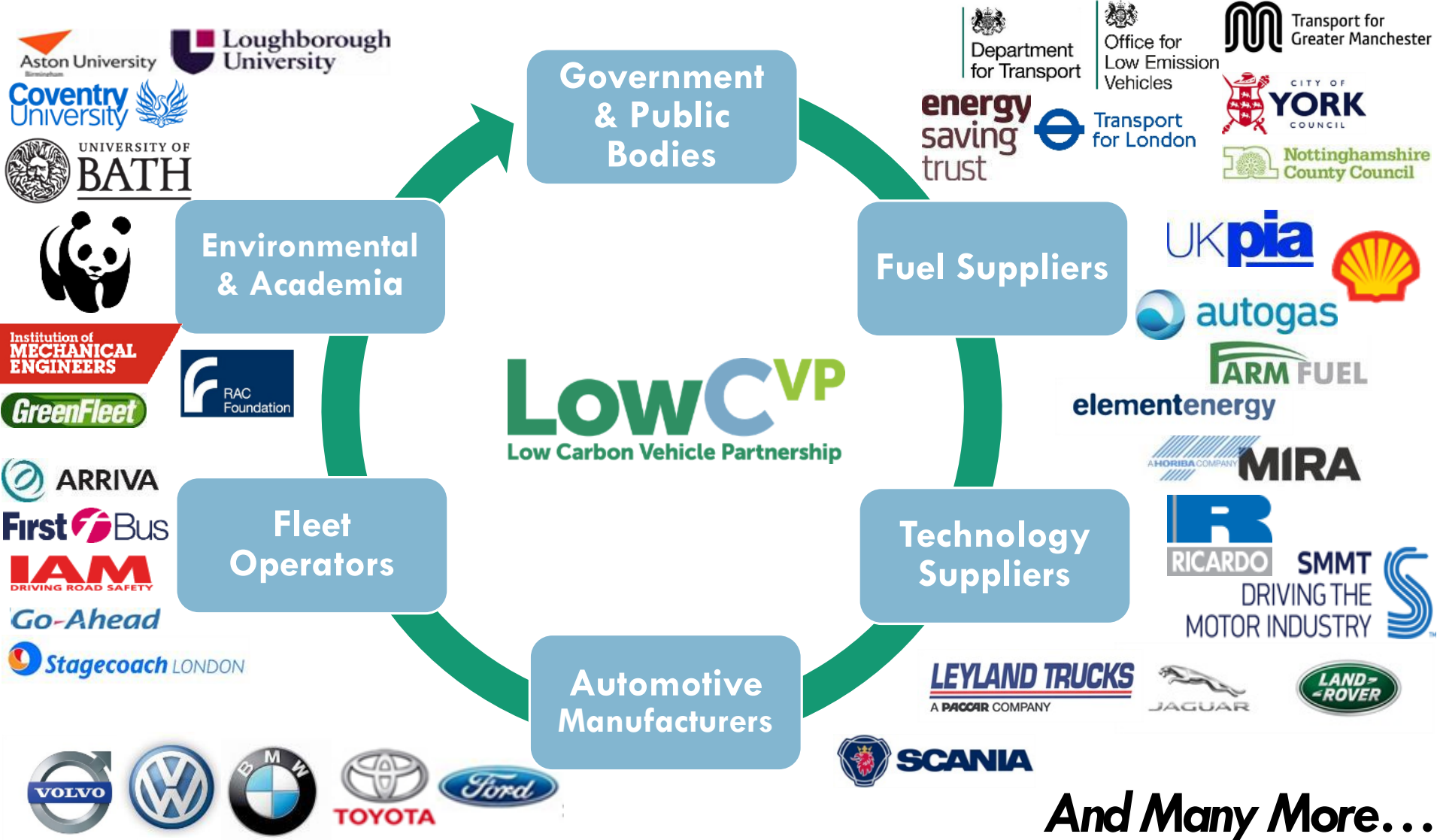
Project Manager

Low Carbon Vehicle Partnership

LowCVP: A unique public-private membership organisation, building evidence and creating robust policies and innovation in the UK

LowCVP
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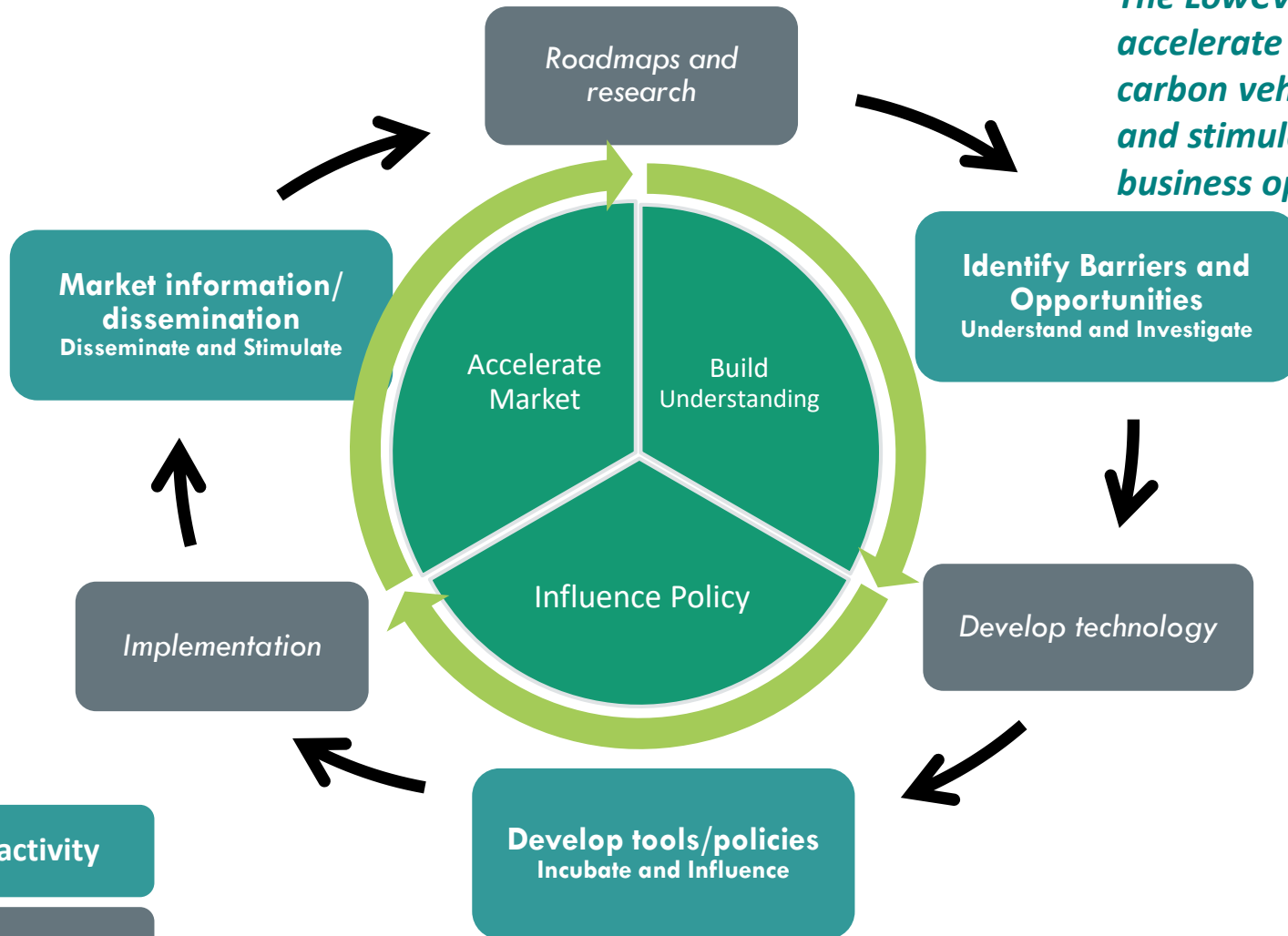


And Many More...

LowCVP Activity & Policy Cycle

- Robust Research, Policy and Information

The LowCVP exists to accelerate shift to low carbon vehicles and fuels and stimulate UK business opportunities



Key:

LowCVP activity

Member organisations

Current State of Play in Wales

In 2016/17...

- 1,500 registered PSV buses in Wales (-25% from 2006/7)
- 2,100 citizens/bus, *GB average is 1,600 citizens/bus*
- 100 million passenger journeys (-16% from 2006/7)
- 32 journeys per head, *GB average is 77 journeys per head*
- 45% of all bus journeys are concessionary fares (*34% GB average*)
- 1 car for every two people in Wales ... *only NI has more cars/head*

Plenty of Opportunities for Growth of Bus Market in Wales!

Long term transport strategy must include modal shift

Bus strategy must include reduction of emissions (CO₂, NO_x)...

National UK Bus Policy Evolution

Development of evidence based bus policy over the last decade to reduce emissions...

2007-08

Definition of a
Low Carbon
Emission Bus
(LCEB)

2009-15

Creation of a
LCEB
Accreditation
Scheme

2015-16

Green Bus
Fund
BSOG LCEB
incentive
Scottish Green
Bus Fund 1-5

£30m
OLEV
Low Emission
Bus Grant
Scheme
Scottish GBF 6

2016-2018

£3m SGBF 7
B.E.A.R.
Retrofit
£40m CBTF

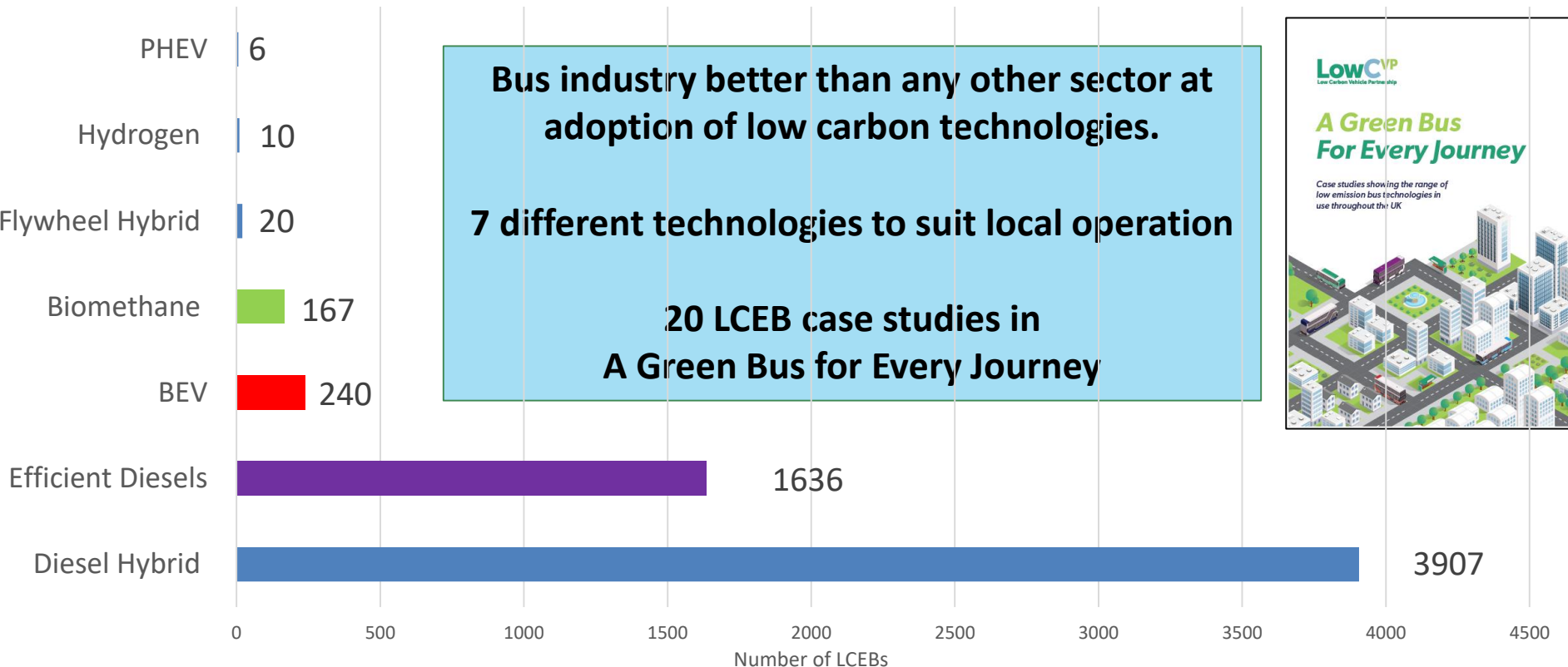
Defining an
Ultra Low
Emission
Bus
£48m

... detailed in [The Journey of the Green Bus](#)



Low Carbon Emission Buses

- 30% well-to-wheel greenhouse gas saving vs Euro III diesel
- £90m for 1240 LCEBs in England, £14m for 275 LCEBs in Scotland
- July 2018: **5,904** LCEBs in service in UK, No LCEB BSOG incentive in Wales

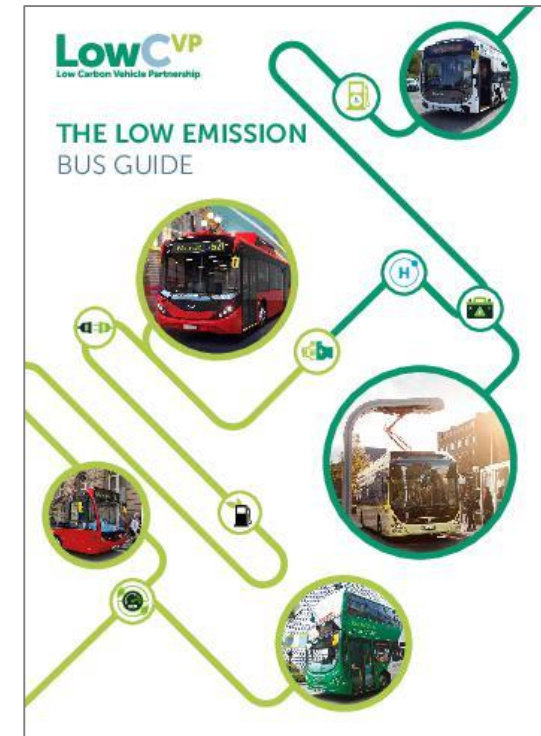


Low Emission Buses – includes AQ

- 15 % well-to-wheel greenhouse gas saving vs Euro V diesel buses & buses must be Euro VI.
- £41m funding 476 buses in England, 93 LEBs funded by SGBF 6 & 7
- Test certificates published on LowCVP website
- TRL monitoring programme of LEBs in England
- Estimated 2,570 Low Emission Buses in service
- See [Low Emission Bus Hub](#) for more info

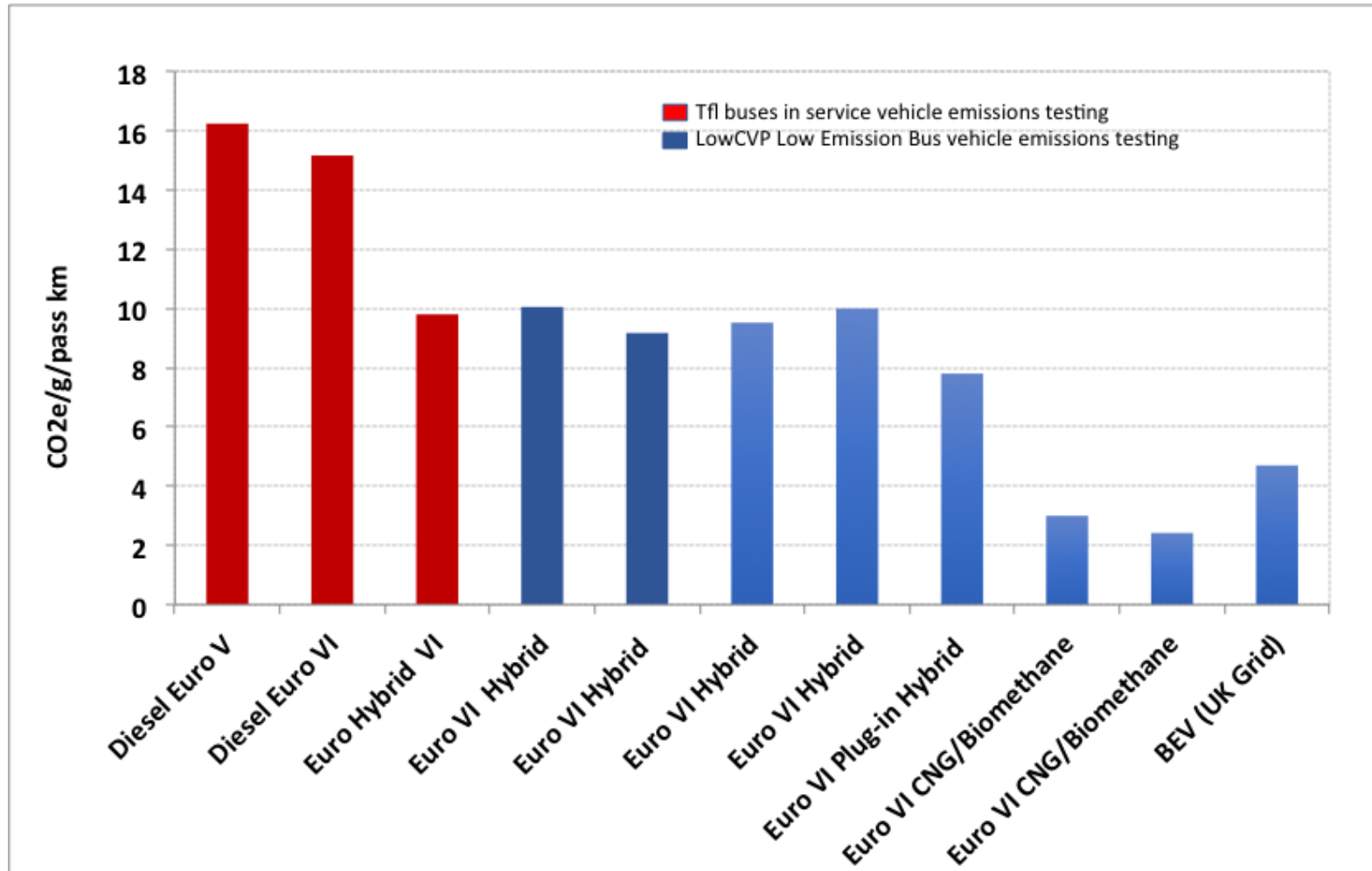
The Low Emission Bus Guide:

- Accredited Models
- Infrastructure options
- UK and EU Case studies

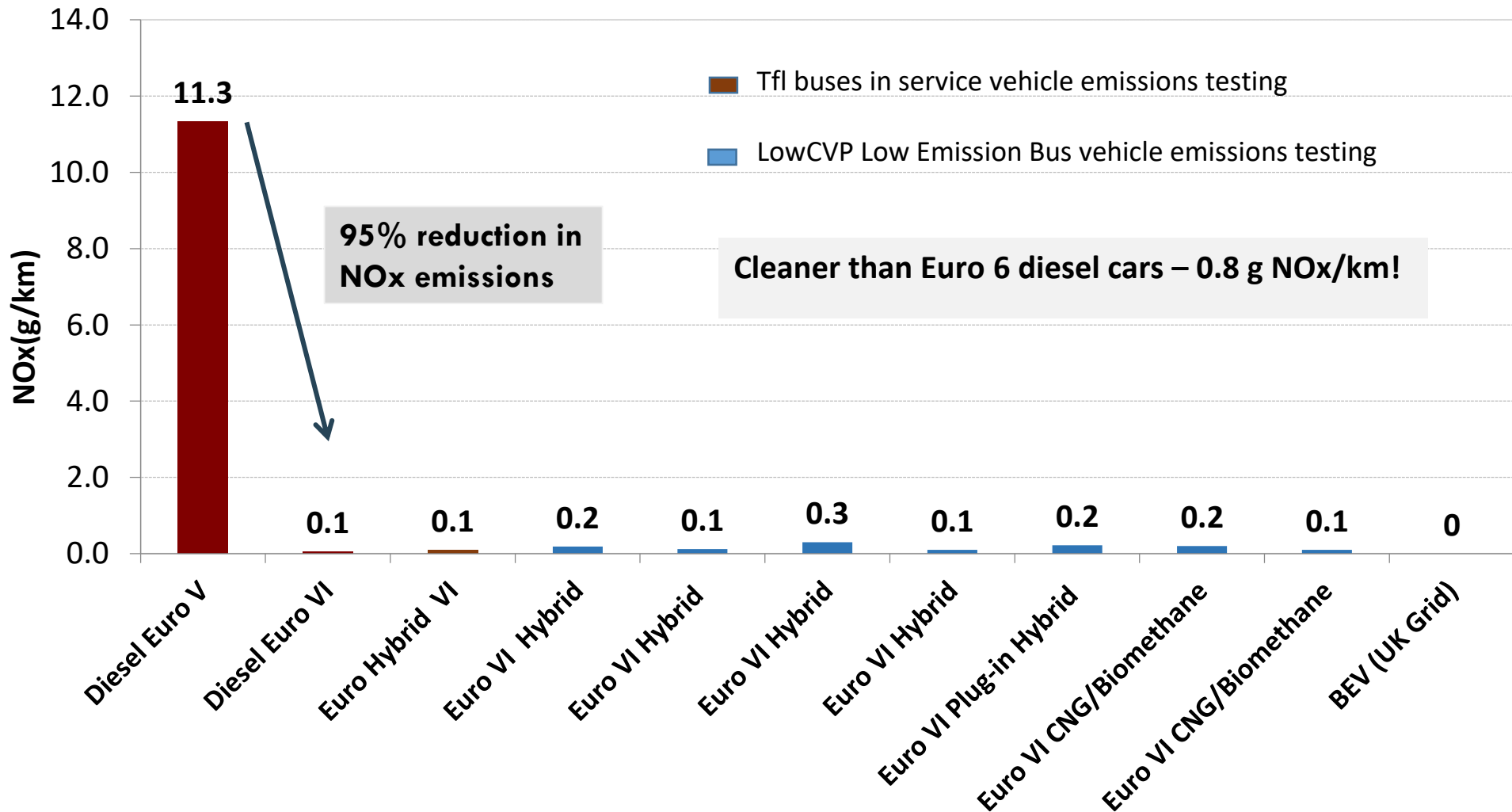


Well-to Wheel Greenhouse Gas performance

Range of technologies , fuels and infrastructure solutions available – no one solution for all operations!



Euro VI is clean for all technologies



How to support bus industry to meet Euro VI CAZ criteria?

- Need consistency in standards : Euro VI diesel UK wide

Clean Air Zones = Low Emission Zone = ULEZ

- LowCVP evaluation of retrofit programmes 2013-15
- UK accreditation scheme for retrofit technologies

Clean Vehicle Retrofit Accreditation Scheme (CVRAS)

- £40m in England & Wales, £1.6m B.E.A.R. 1 in Scotland
- At least 1,000 buses for potential upgrade in Wales.
- LowCVP working with industry to encourage solutions for coaches and trucks
- LowCVP looking to develop Low Carbon Coach scheme



Next Gen: Ultra Low Emission Bus

- LowCVP conducted test programme of 8 Euro VI diesels
- Test Cycle Development - even more representative test e.g. temperature of test cell to 10°C / cabin heating turned on

Ultra Low Emission Bus Definition – foster ambition

- 30% well-to-wheel GHG savings vs **Euro VI** baseline
- Funding encourage zero emissions mileage (Road to Zero)
- Continue to encourage vehicle efficiency improvements.
- Align terminology with other vehicle sectors – future use in CAZ?



- Buses are part of the solution to tackle congestion, air quality, climate change and improved health and well-being.
- Ken Skates has hosted two Wales Bus Summits to explain his vision and to encourage more partnership working.
- Consultation on Clean Air Zone Framework for Wales closes 19 June – responses being assessed.
- Welsh Government coordinated support for ULEB applications – 3 bids in from Wales.
- WG initiated with Volvo Bus - and Cardiff Bus and Council - a trial of an all-electric bus between Cathays Park and Cardiff Bay.

Review of BSSG operational support mechanism

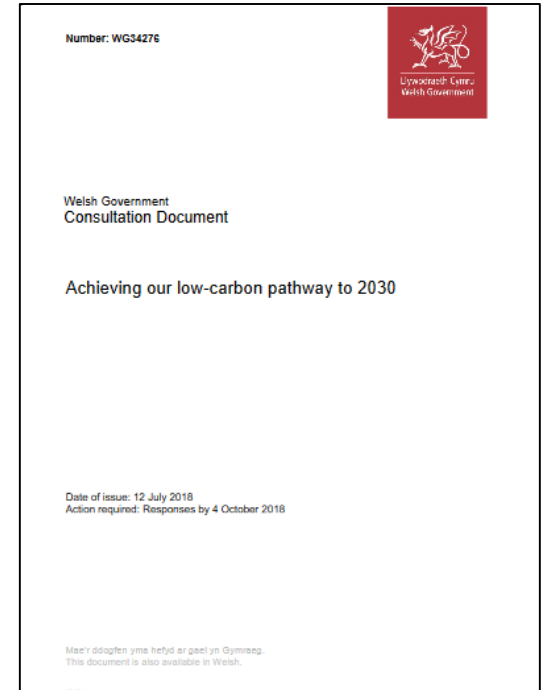
- Working with LowCVP, local authorities and CPT to ensure best future design of BSSG.
- Plan to adjust BSSG to encourage cleaner and greener buses in Wales as part of a wider strategy.
- BSSG could become a Better Bus Fund, with wider scope, potentially including bus priority and retrofitting of green technology.
- BSSG also adjusted to improve service reliability and availability of data to consumers, plus A/V.

Consultation on Low Carbon Pathway

- Welsh Gov't consulting on how to achieve 80% greenhouse gas reduction by 2050.
- This consultation presents initial thoughts on how we might reduce greenhouse gas emissions by **45% between now and 2030**.

Proposals include:

- accelerating sustainable energy production and foster local ownership
- improving opportunities for active travel and develop a comprehensive charging network for electric vehicles
- setting higher energy efficiency standards for new building projects.



<https://beta.gov.wales/low-carbon-pathway-wales>

Facing challenges together

- Improving Air Quality will benefit all (business & public)
- Need pragmatic approach given timescales and target all vehicles.

Forming partnerships will benefit all:

- Bus need to seize opportunity = Urban Mobility Solutions
 - Range of options for different operations
 - Clean & Low Carbon – catalyst for other vehicle types
 - Focus on emissions/ passenger km
- Local authorities should support bus priority measures. Operators will invest if supported.

Long term: Zero Emission Zones

Industry and Gov't need to work together to tackle challenges

Thanks for listening.



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Interested in joining the Partnership?

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