

# Defining a Low Emission Commercial Vehicle

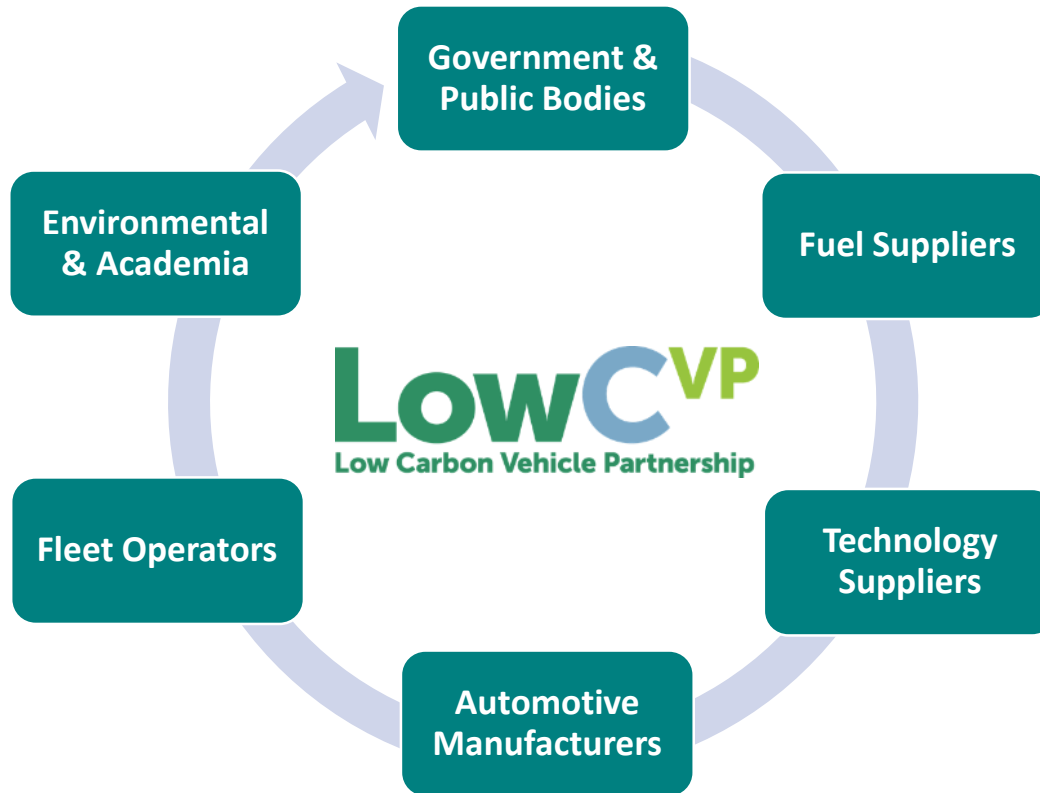
Transport KTN – 14 July 2016



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*Managing Director - LowCVP*

# Collaborating for UK success



# The market 'Gap'

- Key conclusion from LCTT (and other studies) was need for robust emissions test data for technology comparisons/evaluation
- Defining 'low emission'
  - Carbon, GHG, NOx, HC, PM, PN .....
- Complex market
  - Truck specifications, operations, utilisation, Vans
  - Straddle light and heavy duty regulations (very different)
- Lack of consistent data for tech manufacturers
- Restricted whole heavy vehicle emission test facilities
- Lack of baseline data

# Innovation is good but .....

## Proliferation can create a problem

- CAZ – Clean Air Zones
- Euro 4, 5, 6
- Euro IV, V, VI, EEV
- ULEV – Ultra low emission vehicle
- PiVG – Plug in Van Grant
- LCTT –Low Carbon Truck Trial
- CVTF – Clean vehicle Technology Fund
- RPC – Reduced Pollution Certificate
- LEZ - Low Emission Zone
- CNG, LPG, LNG, CBM, LBM, Electric, Hydrogen, Methanol, HVO, Ethanol,.....



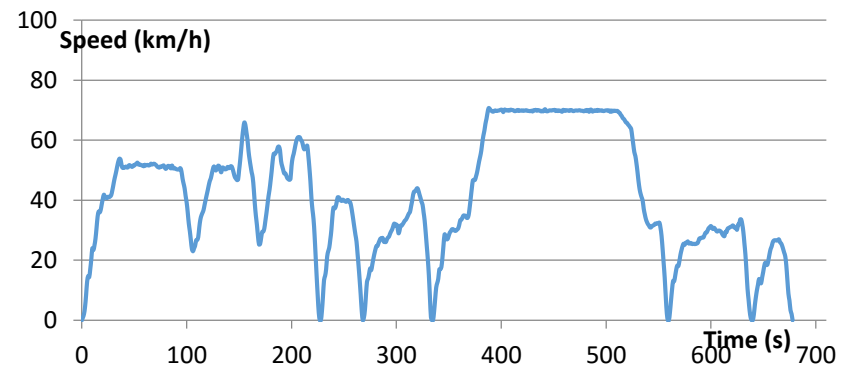
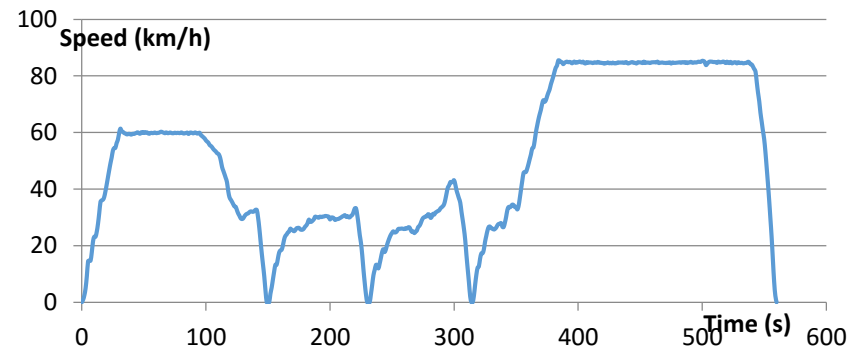
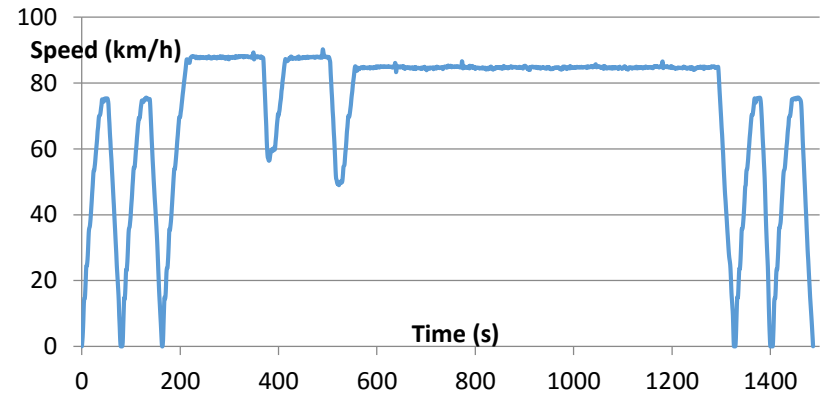
# Steps to success

- Listen to the users – real operational issues and opportunities
- Learn from others – legislation, other sectors, International
- Make the test data useful
  - Representative - driving cycles
  - Realistic - load
  - Relevant - results
- Think about the costs – Testing, Certification, Application



# LowCVP commercial vehicle test

- 3 Phases, based on European work (VECTO) for HGV CO<sub>2</sub>
- Long Haul – Avg 74 km/h
- Regional Delivery – 50 km/h
- Urban Delivery - 42 km/h



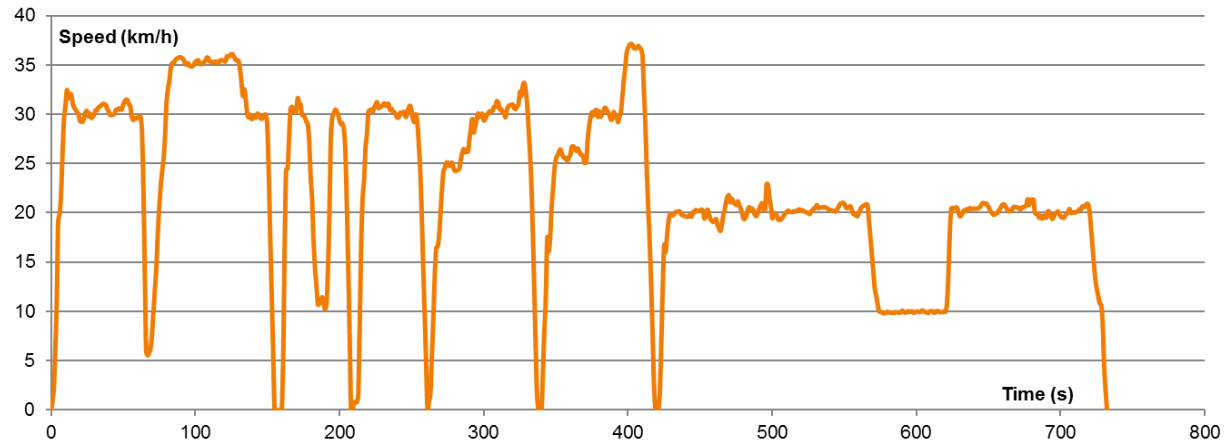
# Real trucks, Real drivers, Real tests



## Representative emissions

# LoCITY city centre challenge

- City Centre Operation – low speed, start/stop (22km/h)
- Van focussed
- Correlated
- 60% load





# Representative data for real users

- Fuel consumption (l/100km)
- Energy consumption (kWhr/100km)
- Emissions – NO<sub>x</sub> (NO, NO<sub>2</sub>), CO, HC
- Potential for PM/PN (Particulates), N<sub>2</sub>O, CH<sub>4</sub>
  
- Consistent test cycle
- Consistent load condition
- Repeatable across test facilities
- Evaluation of technologies or changes
- Potential for standards and thresholds

# Commercial vehicle accreditation

- Suite of 4 test cycles for all standard commercial vehicles
- Established test process with 2 test providers (so far)



- “Pilot” testing of Electric, Gas, Diesel and Hybrid



**SCANIA**

**IVECO**

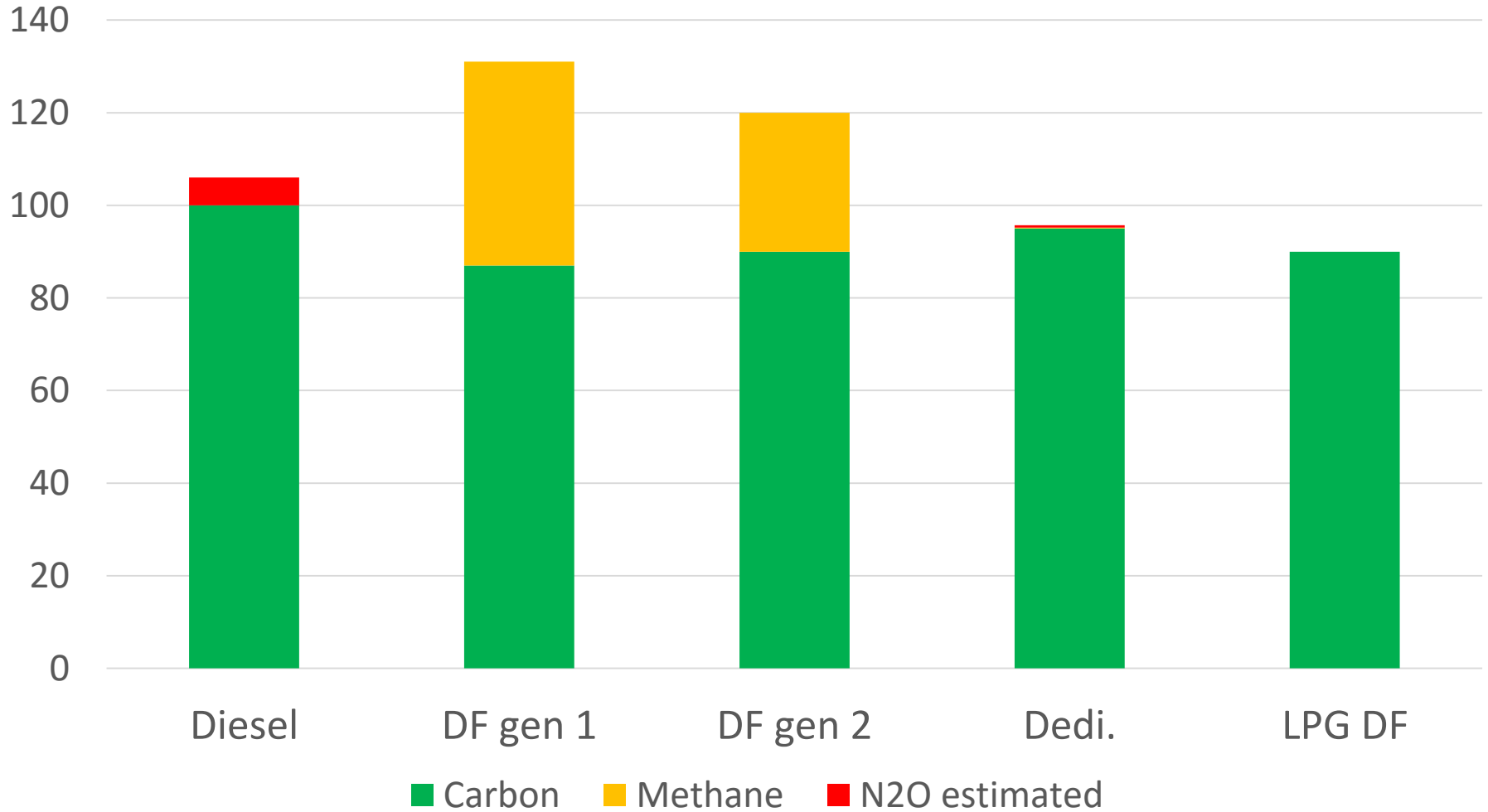
**TEVVA**  
**MOTORS**



- Creating accreditation procedures
- Stakeholder reviews
- Joining up the players for common standards across UK
  - OLEV, DfT, TfL, DEFRA, FTA, RHA, EcoStars, SRF, EST
- Developing the thresholds for recognition

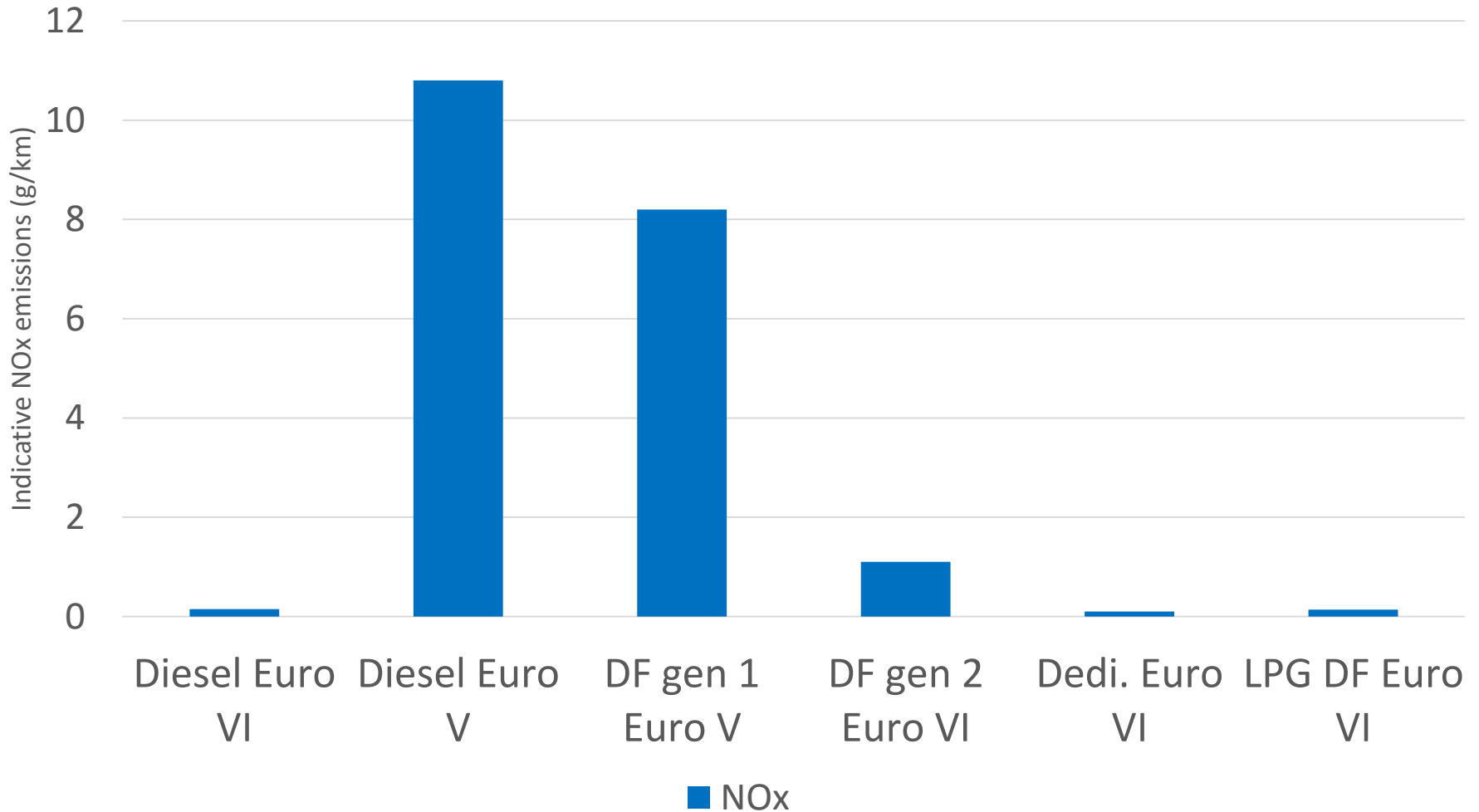
# Relative GHG impact with technology

DfT funded testing of Long Haul operation of (fossil) Gas Trucks



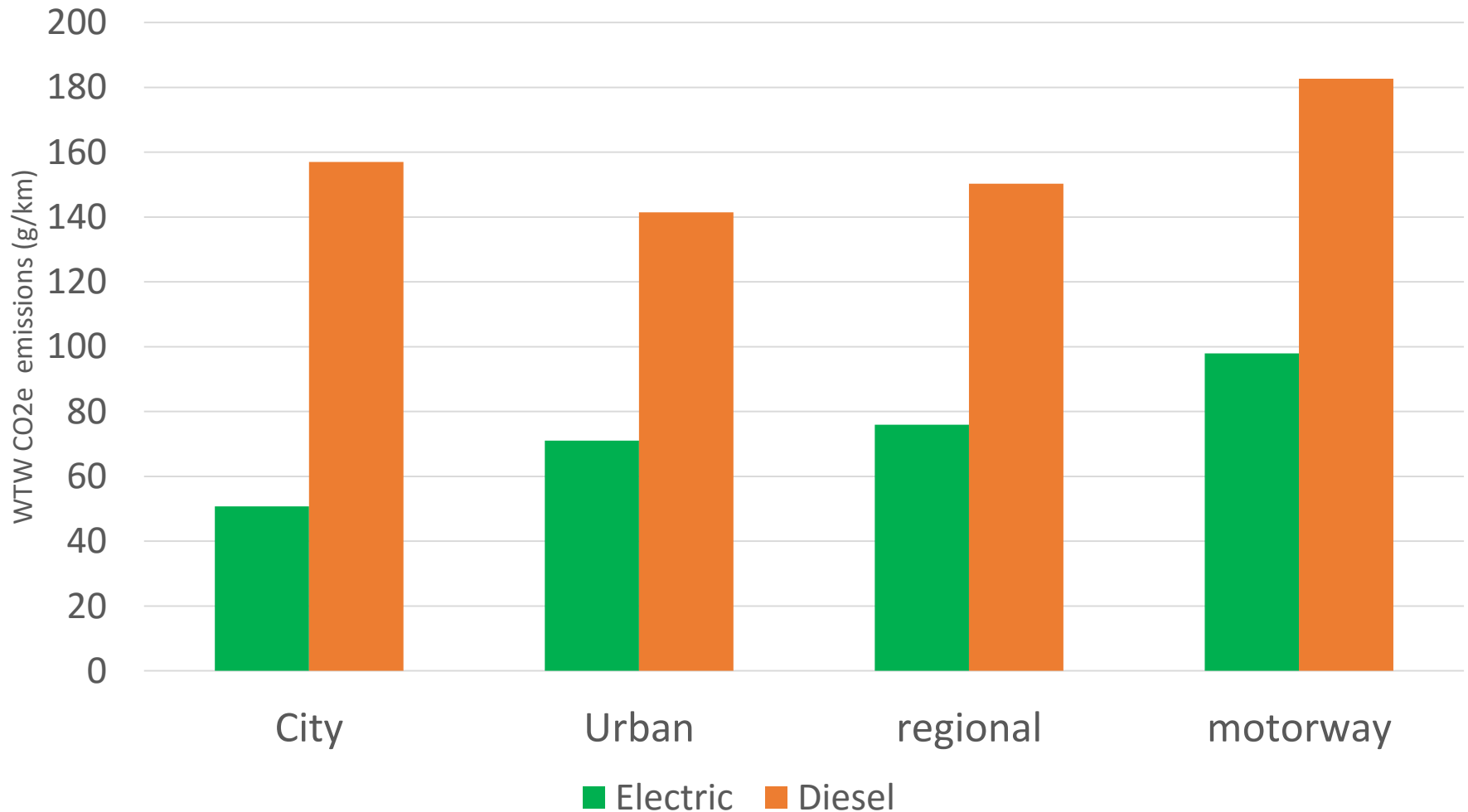
# Relative NOx impact with technology

Long Haul operation of Gas Trucks



# Importance of cycle v technology

Illustrative WTW GHG for laden Van cycles



# Future work

- Reinststate full Commercial Vehicle group in LowCVP and support DfT Low carbon freight taskforce
- Build baseline of the broad fleet
- Define “Low Emissions”
- Accreditation lists of technologies
- Celebrate and promote LECVs’
- Review bespoke applications
  - Refuse collection Vehicles
  - Construction operations
  - Others??
- Assess processes for ancillary loads and emissions
  - Refrigeration units
  - PTO applications

# LowCVP supporting CVs

- **Creating the platform for robust recognition of low emission commercial vehicles and technologies**

- **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



Van Cost & Carbon Calculator



<http://www.lowcvp.org.uk/lev.htm>



## The Low Emission Van Guide

UPDATED  
JULY  
2016

Helping van operators  
to reduce costs and emissions

## HGV Accreditation Scheme



### Join Us

If you want to get involved in the work of one or more of LowCVP's Working Groups why not join us, or contact the Secretariat for more information

LowCVP is a partnership organisation with over 180 members with a stake in the low carbon road transport agenda.