



**Zemo  
Partnership**  
Accelerating Transport to Zero Emissions

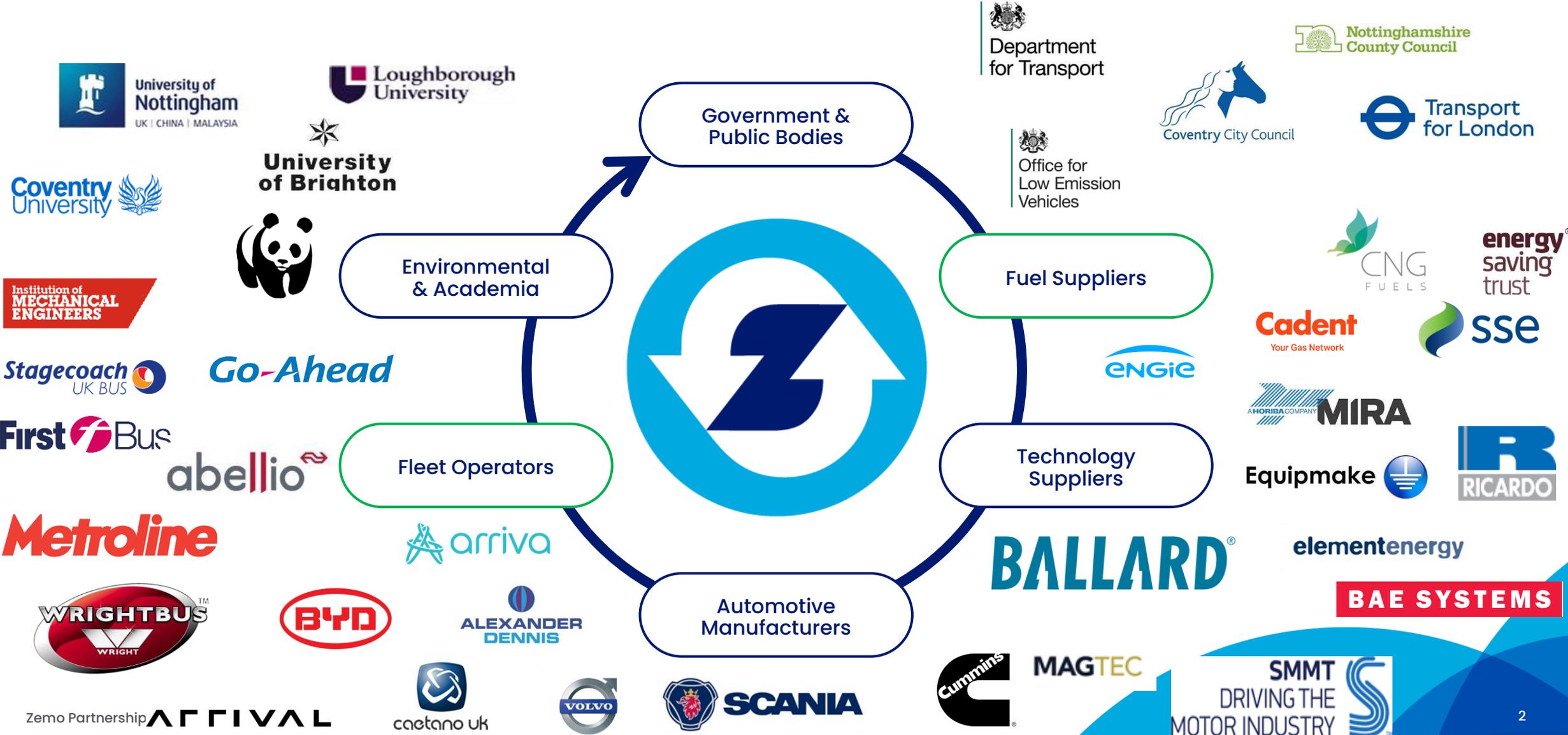
# Zero Emission Bus Workshop London

## Hydrogen Fuel Cell Buses

Document prepared by Zemo Partnership

Crown Plaza Hotel, Hanger Lane, London 21st April 2022

We are a **public-private partnership** between UK Government and industry helping to **accelerate the shift to a net zero transport system in the UK** through innovative policy development



# Our working groups



Working Groups are at the heart of our member action on buses, passenger cars, fuels, commercial vehicles and energy infrastructure.



## Buses

Action programmes to speed the introduction of zero emission buses in the UK by working with passenger transport companies and local authorities

[Daniel.Hayes@zemo.org.uk](mailto:Daniel.Hayes@zemo.org.uk)



## Cars

Working with manufacturers, fleet operators, environment and consumer groups to accelerate the adoption of zero emission cars.

[Alexander.Thomson@zemo.org.uk](mailto:Alexander.Thomson@zemo.org.uk)



## Fuels

We explore measures to increase the adoption of sustainable low carbon fuels such as biofuels and renewable hydrogen.

[Gloria.Esposito@zemo.org.uk](mailto:Gloria.Esposito@zemo.org.uk)



## Commercial Vehicles

For manufacturers, freight transport operators, technology suppliers, technical expert and others interested in accelerating the transition to cleaner, greener road freight.

[Brian.Robinson@zemo.org.uk](mailto:Brian.Robinson@zemo.org.uk)



## Energy Infrastructure

Formed to make suggestions to Government and industry to ensure that the GB energy system is ready for and able to facilitate and exploit the mass take up of electric vehicles.

[Jonathan.Murray@zemo.org.uk](mailto:Jonathan.Murray@zemo.org.uk)



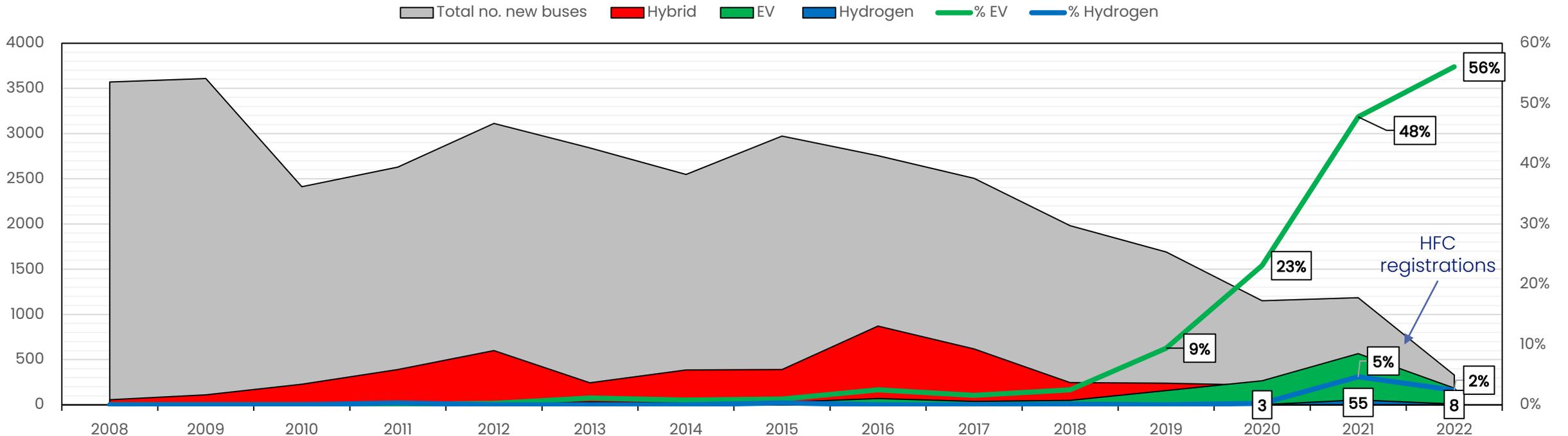
## Collaborative Initiatives

Joint working group projects where content crosses over, overseen by the members' council.

[James.McGeachie@zemo.org.uk](mailto:James.McGeachie@zemo.org.uk)

# State of the UK Bus Industry

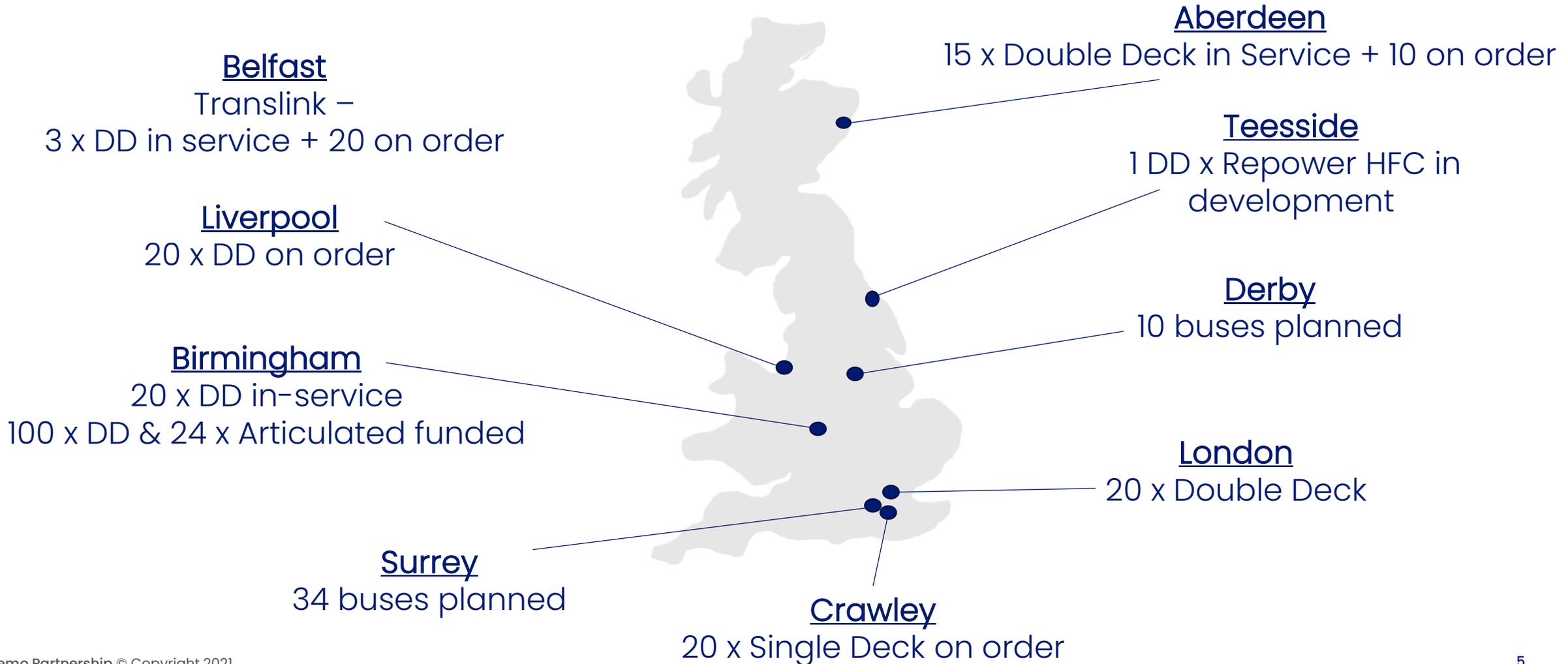
Over 1,500 Zero Emission Buses in service



- Historic average of 2,000–3,000 buses registered annually but market shrinking since 2015
- UK bus industry leading the adoption of zero emission – 53% of buses registered in 2021 were zero emission
- Major uncertainty around passenger numbers post covid makes investment planning challenging

# UK Hydrogen Bus Fleets

66 Hydrogen Fuel Cell buses in service, 230 funded/planned



# Major Hydrogen Infrastructure Plans



## Government Hydrogen Strategies

England: 5 GW Hydrogen Production Capacity by 2030

Scotland : 5 GW Hydrogen Production Capacity by 2030

Glasgow (Whitelee)  
20MW Electrolyser

Liverpool  
HyNet North West – 1GW Blue Hydrogen



## Aberdeen

Dolphyn – up to 200MW Electrolyser with Floating Wind Farm

## Teeside

Hydrogen Transport Hub  
H2 Teeside – 1GW Blue Hydrogen  
HyGreen – 60MW Electrolyser

## Humberside

Hydrogen to Humber  
– x MW Blue Hydrogen

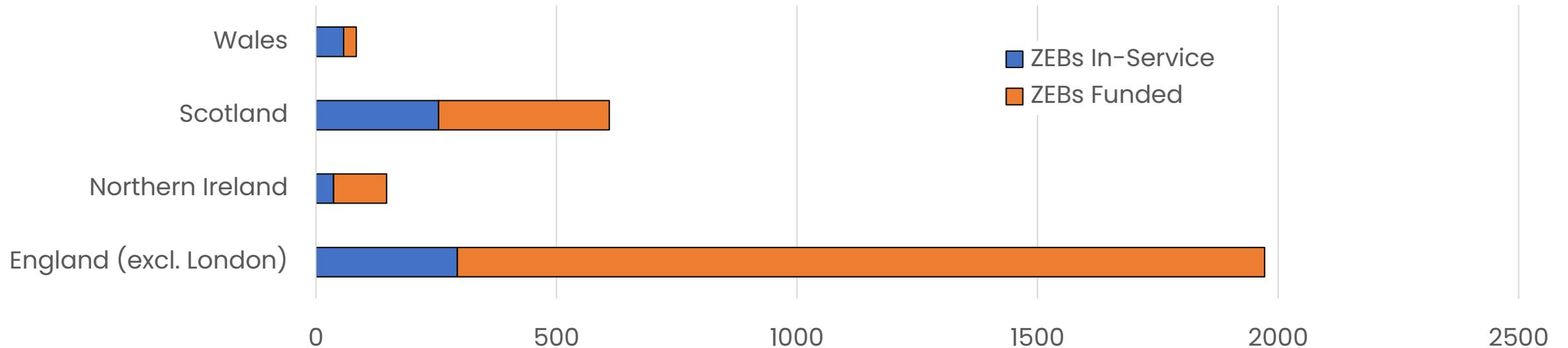
## Kent

4-10MW Electrolyser

Emerging trend that hydrogen production is centralised and then transported to depots for refuelling.

# Government Funding Driving ZEB uptake

Almost 3,000 Zero Emission Buses in service or funded (excl London).



## Future ZEB Funding

- England – £205m allocated for ZEBs (2022–2025)
- Scotland – £58m allocated for ZEBs (2022–2025)
- Other Funding Pots – City Region Sustainable Transport Settlements, Levelling Up Funding, Bus Service Improvement Plans, etc



# Renewable Fuels Assurance Scheme

Independent certification of liquid and gaseous fuels



- Zemo verify claims made by companies supplying renewable fuels to operators regarding their **product's GHG emission savings and provenance** of raw material feedstocks.
- Aligns with UK Renewable Transport Fuels Obligation (RTFO)
- Helps operators choose the lowest carbon fuel supplier
- Provides greater detail of greenhouse gas emissions from individual fuel suppliers, ensuring accurate and representative information for company carbon reporting
- Example renewable fuel types include biodiesel, hydrotreated vegetable oil, biomethane, renewable hydrogen



<https://www.zemo.org.uk/work-with-us/fuels/the-renewable-fuels-assurance-scheme.htm>

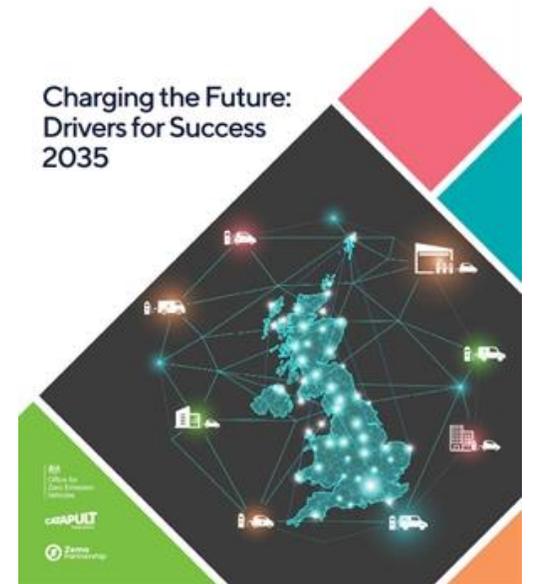
# Upcoming Zemo Activity

[Visit Zemo website to register for upcoming events](#)

- EV Energy Taskforce Webinars – Green Infrastructure Week  
25<sup>th</sup> –29<sup>th</sup> April
- Bus WG meeting at Millbrook, Bedford– 28<sup>th</sup> April
  - Physical in-person event with tour of test facilities .
- Commercial Vehicle WG – 10<sup>th</sup> May (TBC)
- ITT Hub – 11, 12<sup>th</sup> May
- Future ZEB workshops in 2022
  - Newport, Manchester, Birmingham & more
- ZE Truck/Van Workshops in 2022



Charging the Future:  
Drivers for Success  
2035



# UK funding streams for Zero Emission Buses

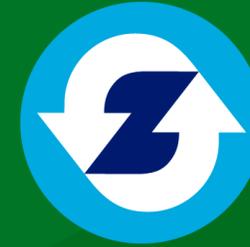
Historic and current pots for ZEB funding by country



Funding Scheme	No. of EVs Funded	Total EV Funding	No. of HFCs Funded	Total HFC Funding
<b>England</b>				
Green Bus Fund	97	£8,605,794.92		
LEBS 1.0	80	£13,388,283.40	40	£2,474,000.00
LEBS 1.5	43	£6,357,182.00		
ULEB 1.0	235	£35,815,780.00	20	£4,360,435.00
All Electric Bus Town	300	£50,000,000.00		
Transforming Cities	18	£7,100,000.00	20	£12,400,000.00
ZEBRA Fast Track	335	£70,900,000.00		
ZEBRA Standard Track	819	£168,000,000.00	124	£30,000,000.00
£205m allocated for 2022-25. <i>No scheme designed yet.</i>	970*	£205,000,000.00		
<b>Scotland</b>				
Scottish Green Bus Fund 1-4	1	£96,288.00		
Scottish Green Bus Fund 5-8	10	£1,152,431.00		
SULEBS 1.0	57	£10,139,412.00		
SULEBS 2.0	215	£40,543,348		
ScotZEB Challenge Fund	276	£62,000,000		
£58m allocated to 2022-2025	250	£58,000,00		
<b>Wales</b>				
ULEB 1.0	54	£6,694,659.00		
AdHoc Governement Grants	16	£8,850,000.00		
<b>Northern Ireland</b>				
Northern Ireland Hydrogen Transport (NIH2 T)**			3	£1,953,937.00
Department for Infrastructure (Translink)	80	£74,000,000.00	20	(Included in £74 million)
Department for Infrastructure (Translink)	38	£30,000,000.00		

\*Zemo estimate

# Thank you



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**Any questions? Please get in touch**

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**Interested in joining the Partnership?**

**Carolyn Webb**

Company & Membership Coordinator

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