

ZEB Market Monitoring Update

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April 2024 Updates

Policy and Funding

England:

- **Zero Emission Bus Regional Areas (ZEBRA) Scheme 2:** Successful areas announced on 22nd March 2024. Funding worth £148m allocated to 25 local authority or joint schemes to support the roll out of 955 (912 battery electric and 43 hydrogen fuel cell) zero emission buses in England. £40m of the funding allocation has been prioritised to support 315 zero emission buses in 'rural areas'. For more information, [click here](#).
- **Consultation on end of sales of new, non-zero emission buses:** Awaiting announcement on date for end of sales.
- **Consultation on BSOG reform:** Awaiting release of BSOG reform consultation.

Scotland:

- **Scottish Zero Emission Bus (ScotZEB) Phase 2:** Deadline for final revised bids closed on 19th January 2024. Awaiting decision on funding award. For more information, [click here](#).

Wales

- Welsh Government and Transport for Wales (TfW) recently published '**Our Roadmap to Bus Reform**' to outline the proposed approach to bus franchising, including proposals on adoption of zero emission buses. For more information, [click here](#).

Highlights

- **Flixbus** (in partnership with Newport Transport) announced a three-month pilot of an electric scheduled coach service between Newport, Bristol and London, utilising the Yutong TCE12 battery electric coach. Charging will take place at the Newport base and receive top up charge at Transport UK Group bus depot in Battersea.
- **National Express** announced the inaugural trial of the Yutong GTe14 tri-axle battery-electric coach on a UK scheduled coach service between London and Stansted Airport, utilising a temporary charging facility at the airport.

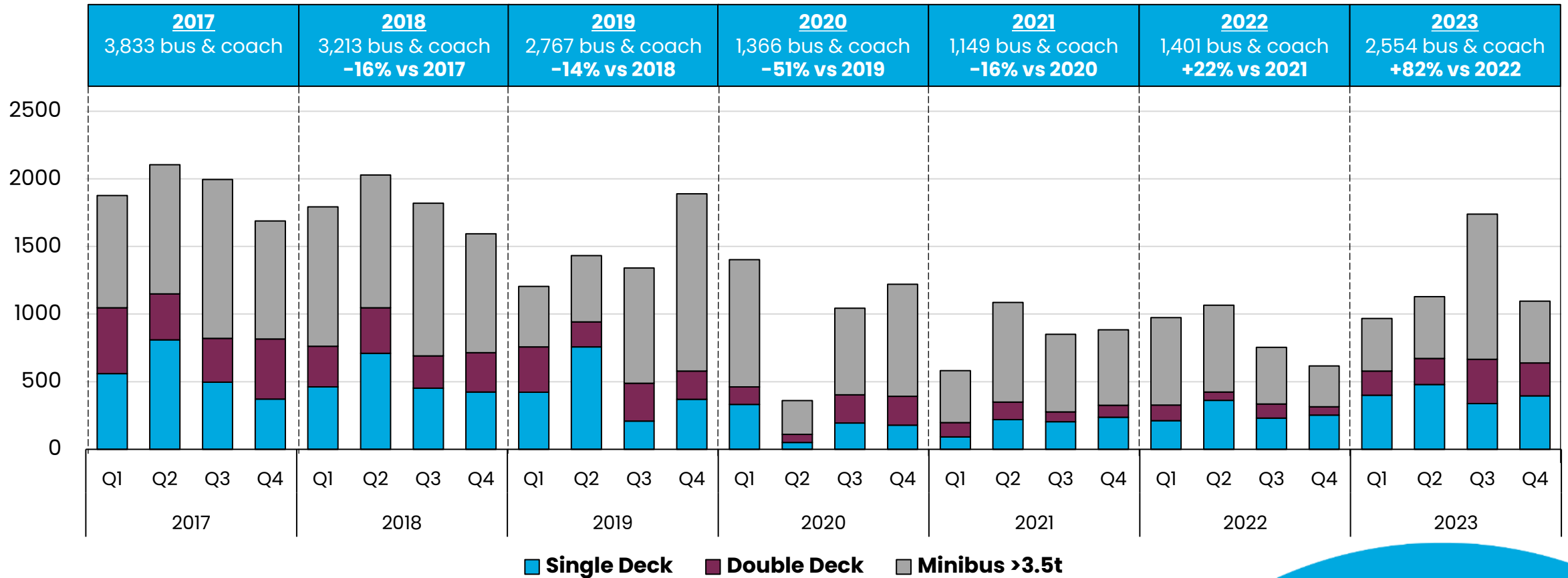


Bus and Coach Registrations 2017–2023 (SMMT)



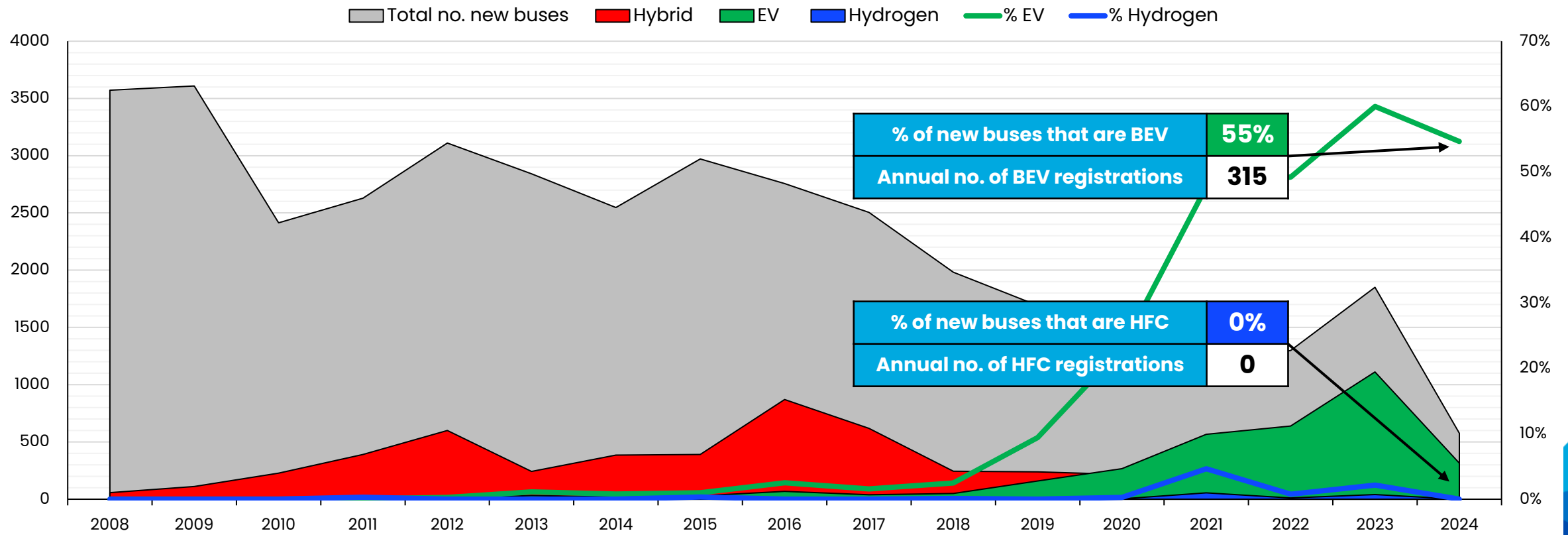
Further information on SMMT Bus and Coach Registration data can be found [here](#)

- **2,554** registrations in 2023, **82%** increase compared with 2022, significantly exceeding Zemo expectations.
- Figures demonstrate **two consecutive years of growth** after five years of decline between 2018 – 2021.



UK Zero Emission Bus Uptake

- Zero emission registrations in 2021 and 2022, equated to around **50% of total bus uptake in the UK**.
- **ZEB registrations grew to over 60% of all new registrations in 2023** (first time there were over 1,000 ZEB registrations in a year). Battery electric vehicles continued to make up the majority of these vehicles (97%).
- ZEB registrations have **remained above 50% in the first quarter of 2024**, and are expected to remain at this level.



UK Bus Uptake



Single and Double Deck Bus Registration Breakdown (Total Market)

Year	Single Deck	Double Deck
2020	36.0%	64.0%
2021	44.2%	55.8%
2022	45.4%	54.6%
2023	50.5%	49.5%
2024	49.0%	51.0%

Single and Double Deck ZEB Registration Breakdown (Total ZEB Market)

Year	Single Deck	Double Deck
2020	26.7%	73.3%
2021	35.9%	64.1%
2022	24.3%	75.7%
2023	50.9%	49.1%
2024	48.6%	51.4%

UK Zero Emission Minibus Uptake

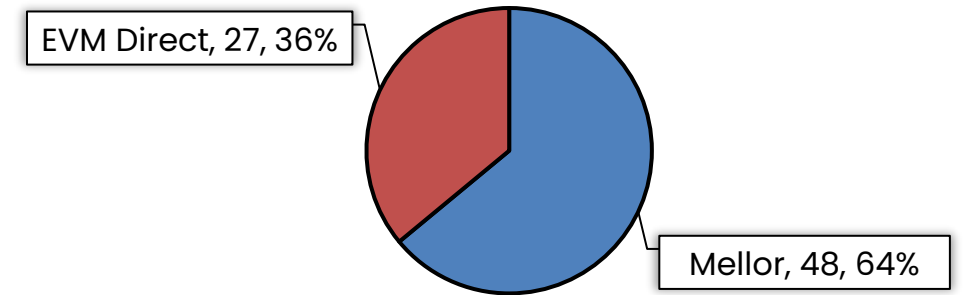
- Working with manufacturers, Zemo estimate there are **around 75 zero-emission minibuses (>5.5t) in operation in the UK**, with a further handful expected soon.
- The majority of these vehicles are being used by local authorities and private organisations for **staff transport and shuttle services**, with a small number being deployed on **registered bus routes and DRT networks**.
- ZE Minibuses make-up a **tiny fraction of total minibus registrations**.
- A wide range of models available to operators, all battery electric with BSOG funding available in England (no grants available).

Available funding for ZE Minibuses in the UK

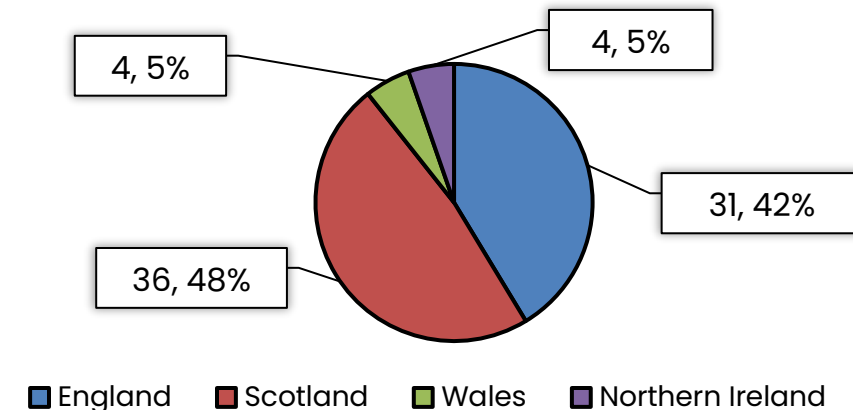
Funding Type	England	Scotland	Wales	Northern Ireland
Grant Funding Eligibility	-	-	N/A	N/A
Operational Incentive Eligibility	BSOG ZEB Uplift (22p/km)	-	N/A	N/A

For more information: [Grant Funding & Incentives \(zemo.org.uk\)](https://zemo.org.uk)

ZE Minibuses In-Service by OEM



ZE Minibuses In-Service by Region



UK Zero Emission Coach Uptake

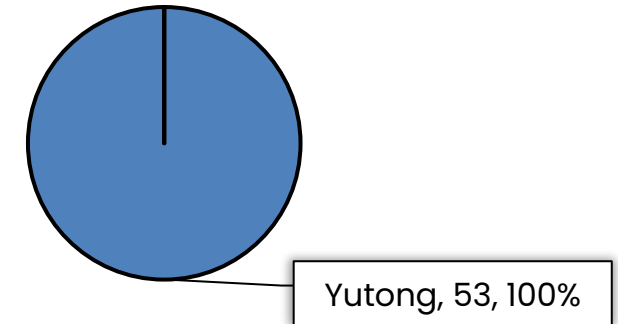
- Since 2019, over 80 zero emission coaches have been ordered in the UK – more than half of these are currently in-service.
- These coaches are being deployed in a variety of scenarios including on **scheduled bus services, domestic tourism, and air-side shuttle work** at airports.
- Recently seen expansion of intercity scheduled coach service trials.
- Despite registrations beginning to grow, **zero emission coaches remain a tiny minority of overall annual coach registrations.**
- Currently two models available to operators, both battery electric. **No funding now open for ZE coaches.**

Available funding for ZE Coaches in the UK

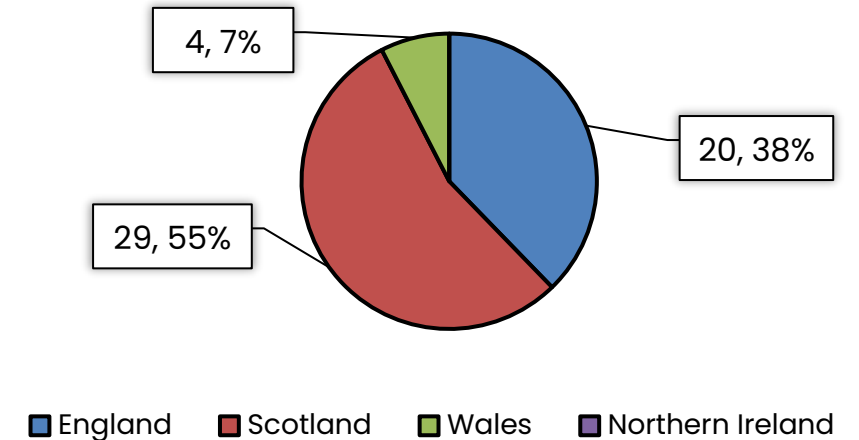
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Grant Funding Eligibility	-	-	N/A	N/A
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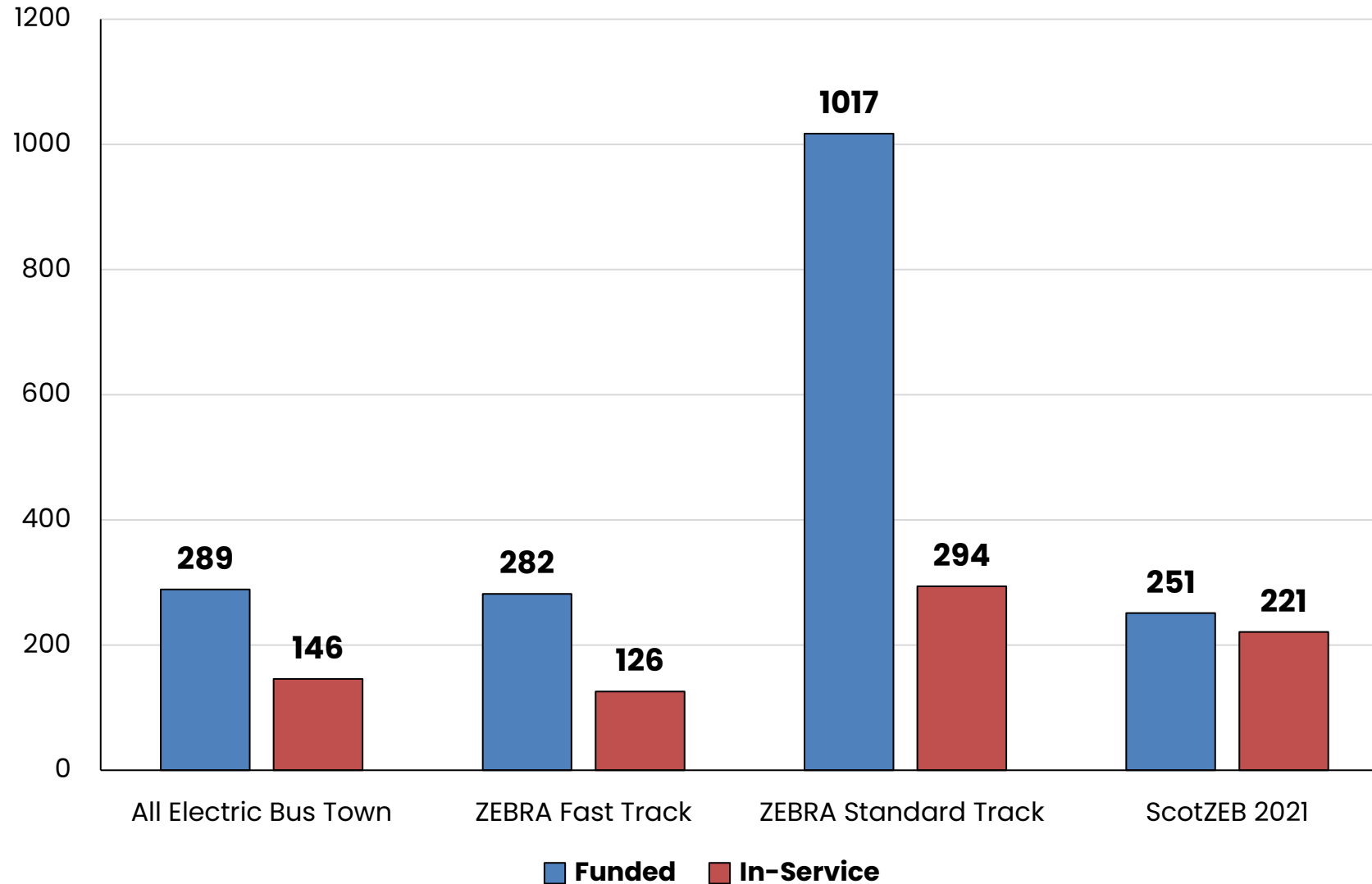
ZE Coaches In-Service by OEM



ZE Coaches In-Service by Region



Zero Emission Bus Funding Stream Progress



- Deliveries for dedicated ZEB funded schemes are coming through in larger numbers now.
- ScotZEB Phase 1 deliveries are now nearly 90% complete.
- Progress has been slower to date for the **ZEBRA Schemes** but is beginning to gain momentum, most recently for 'Standard Track' process projects.

ZEBRA Project Updates

Fast Track



Local Authority	Fleet Size	Vehicle Tender	Infrastructure Tender	Vehicle Order	Infrastructure Installation	Vehicle Delivery
Cambridge and Peterborough CA	30 x BEVs	Complete	Complete	Complete	Complete	Complete
Kent County Council	33 x BEVs	Complete	Complete	Complete	In-Progress	Yet to Begin
Leicester City Council	96 (+55) x BEVs	Complete	Complete	Complete	Complete	In-Progress
Milton Keynes Borough Council	56 x BEVs	Project Cancelled				
Warrington Borough Council	120 x BEVs	Complete	Complete	Complete	Complete	In-Progress

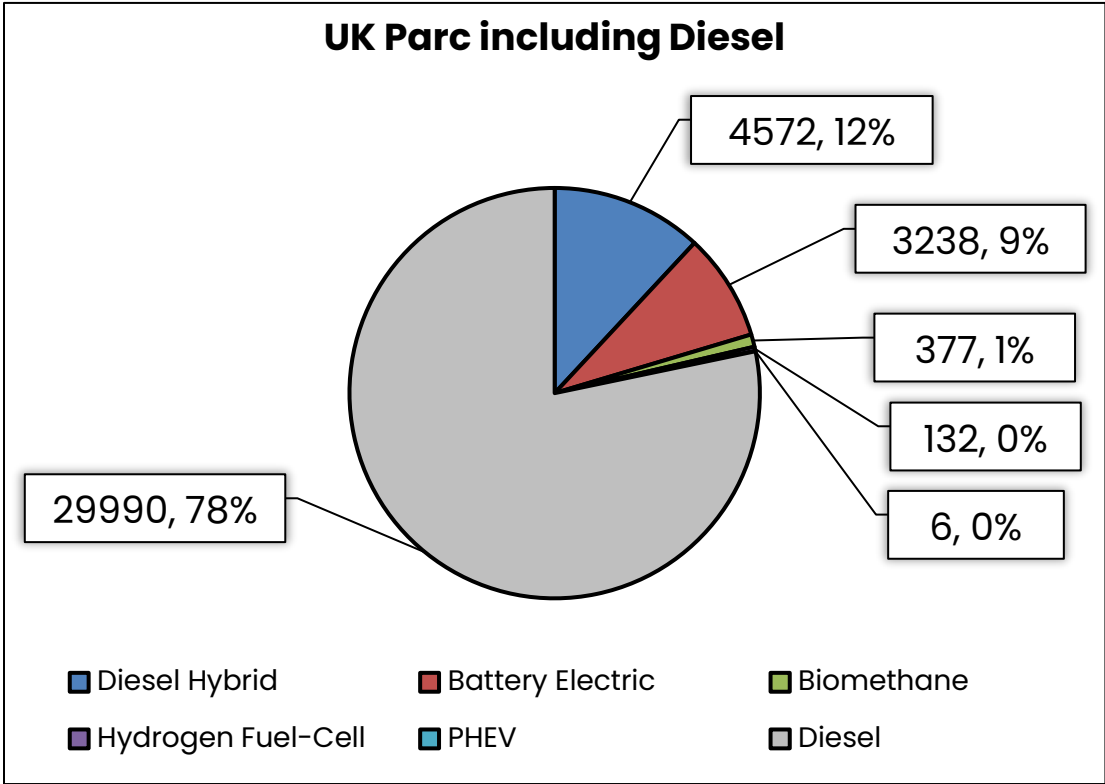
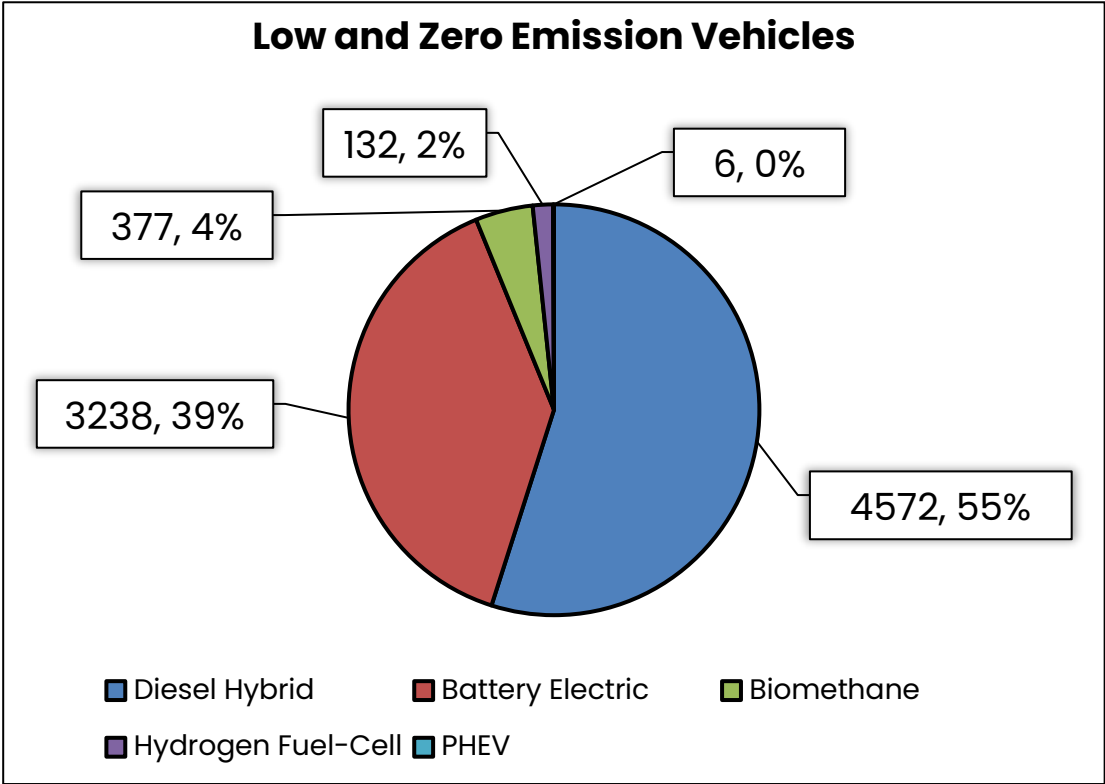
ZEBRA Project Updates

Standard Track



Local Authority	Fleet Size	Vehicle Tender	Infrastructure Tender	Vehicle Order	Infrastructure Installation	Vehicle Delivery
Blackpool Council	115 x BEVs	In-Progress	In-Progress	In-Progress	In-Progress	Yet to begin
City of York Council	44 (+9) x BEVs	Complete	Complete	Complete	Complete	Complete
Hertfordshire CC	27 x BEVs	On-Hold				
Norfolk CC	15 (+55) x BEVs	Complete	Complete	Complete	Complete	In-Progress
North Yorkshire CC	29 x BEVs	Complete	Complete	Complete	In-Progress	In-Progress
Nottingham CC	78 x BEVs	Complete	Complete	Complete	Complete	In-Progress
Oxfordshire CC	159 x BEVs	Complete	Complete	Complete	Complete	In-Progress
Portsmouth CC & Hampshire CC	34 (+29) x BEVs	Complete	Complete	Complete	Complete	In-Progress
South Yorks Mayoral CA	27 x BEVs	Complete	Complete	Complete	In-Progress	In-Progress
Greater Manchester CA	170 x BEVs	Complete	Complete	Complete	In-Progress	In-Progress
West Midlands CA	100 x HFCs 24 x BEVs	In-Progress	In-Progress	Yet to begin	Yet to begin	Yet to begin
West Yorkshire CA	111 (+25) x BEVs	Complete	Complete	Complete	In-Progress	In-Progress

Zero and Low Emission Buses In-Service in UK

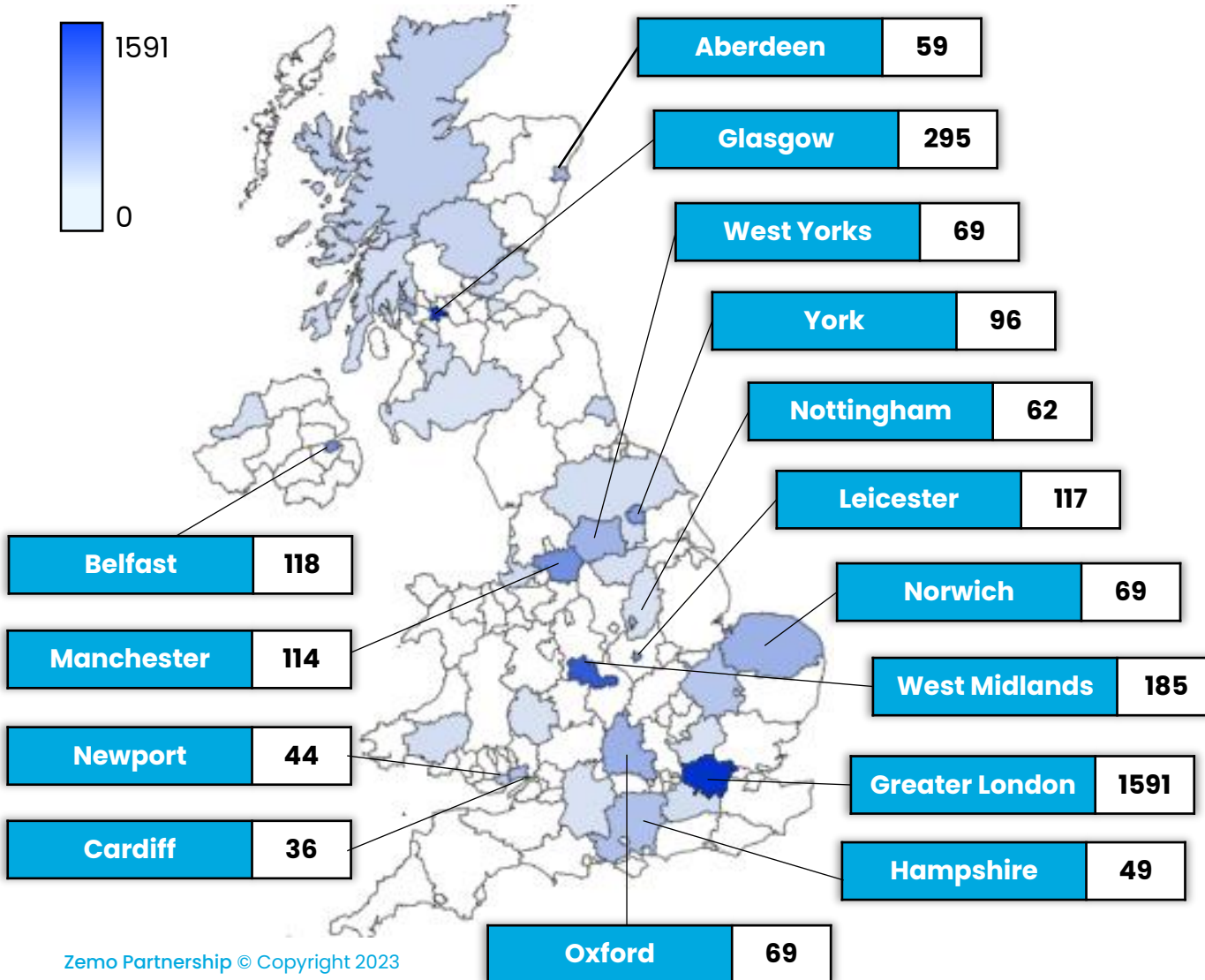


- **Hybrids** most common low carbon vehicle type, fallen to below 55% of low emission bus parc.
- **Battery electric** fleet growing quickly accounting for nearly 40% of the parc.
- **Hydrogen** fueled buses account for 2% of parc.

- **Diesel** remains dominant powertrain, **at just below 80% of all vehicles in the UK.**
- **12%** UK bus fleet is **diesel-hybrid.**
- **9%** of UK Bus fleet is now **battery electric.**
- **Less than 1%** UK bus fleet are **hydrogen** fueled.

Battery Electric Buses In-Service by Region

Over 3,000 BEVs in-service across the UK



BEVs account for nearly **96% of all ZEBs** in-service today.

Majority of deployment focused on urban centres to date. Over 1,000 in-service in London, or **around 50%** of UK BEV total. (Equates to about **18%** of TfL fleet).

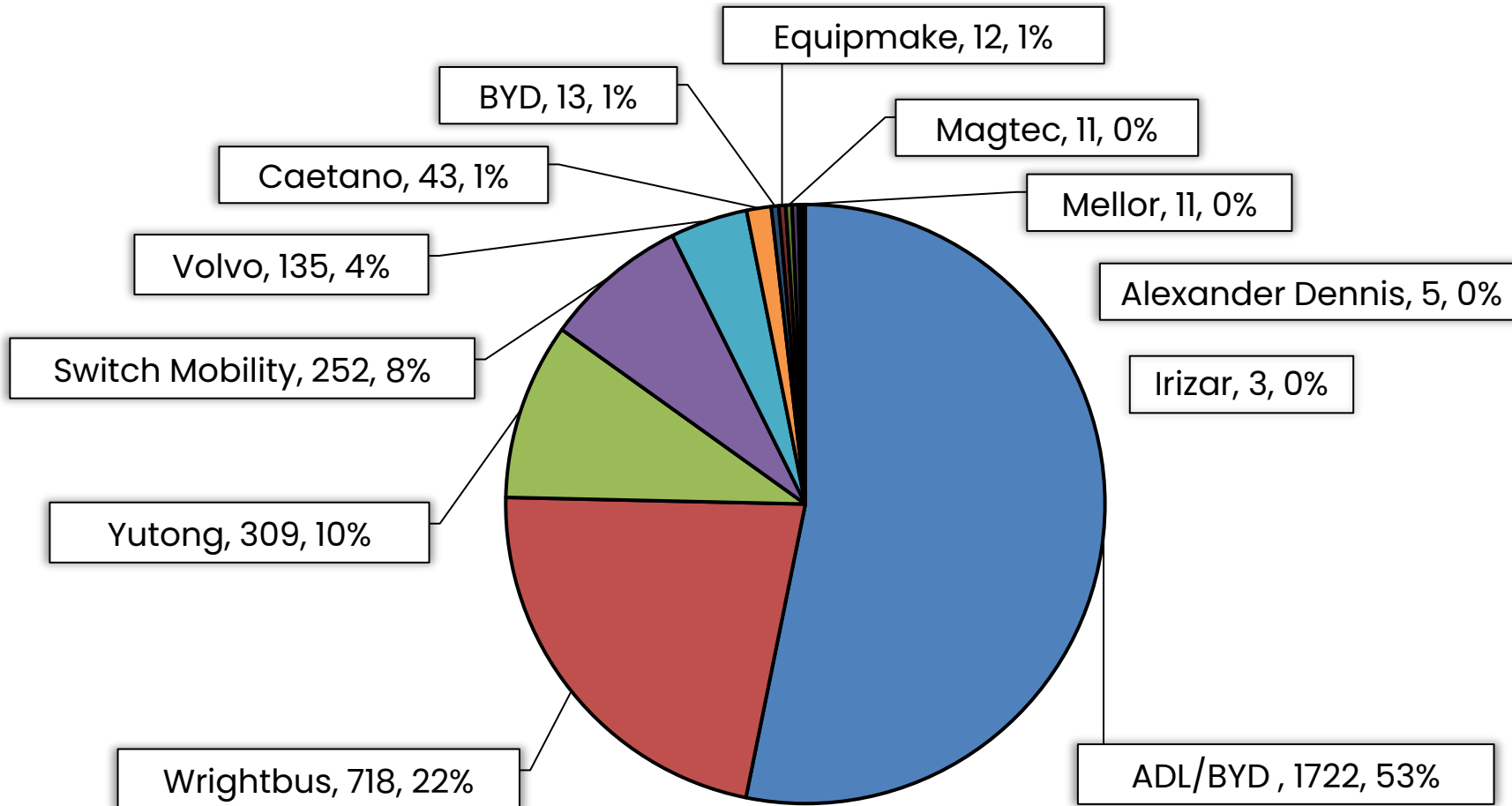
Significant fleets in Glasgow & Inverclyde, West Midlands, Belfast, Leicester and Manchester, while fleets continue to grow in other urban areas including Aberdeen, Nottingham, Greater Manchester, Cardiff and Newport.

ZEBRA 1 deliveries showing wider adoption across UK.

Region	Share of UK BEVs
London	49%
England (excluding London)	29%
Scotland	15%
Northern Ireland	4%
Wales	3%

Battery Electric Buses by OEM

10+ new BEV bus suppliers, 3 BEV repower suppliers in the UK



ADL / BYD vehicles make up just **over 50%** of the UK BEV market.

Wrightbus now have over 700 vehicles in-service, over **20% of the total market.**

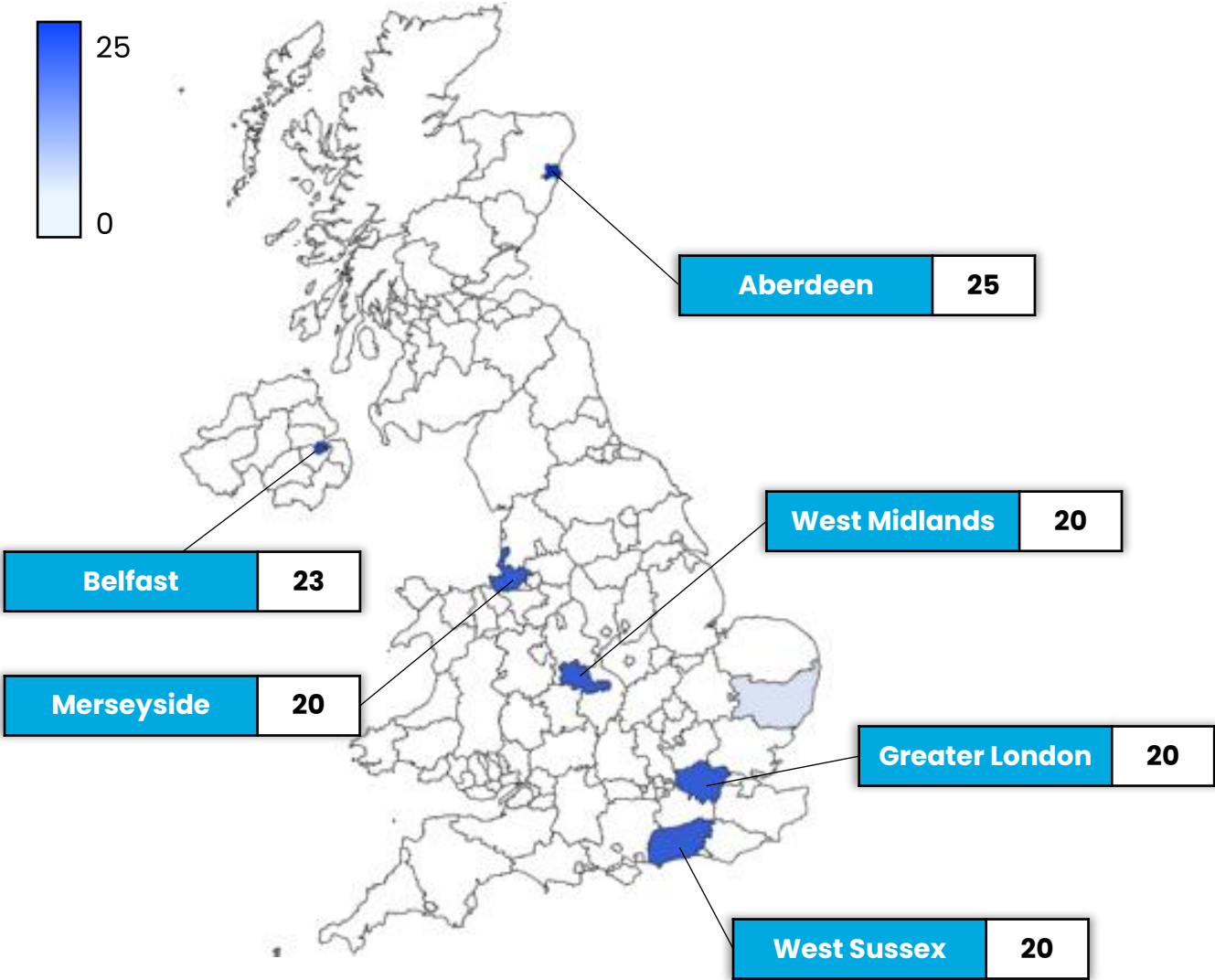
Yutong account for **around 10% of the total market**, or just over 300 vehicles.

Switch Mobility and **Volvo** account for nearly 5% and 10% respectively.

Hydrogen Fuel Cell Buses In-Service by Region



Over 100 HFCs in-service across the UK



HFCs account for just **under 5% of all ZEBs** in-service today.

Early adoption of HFC vehicles is spread across the UK with the largest fleets in Aberdeen, London, Birmingham, Merseyside and Crawley.

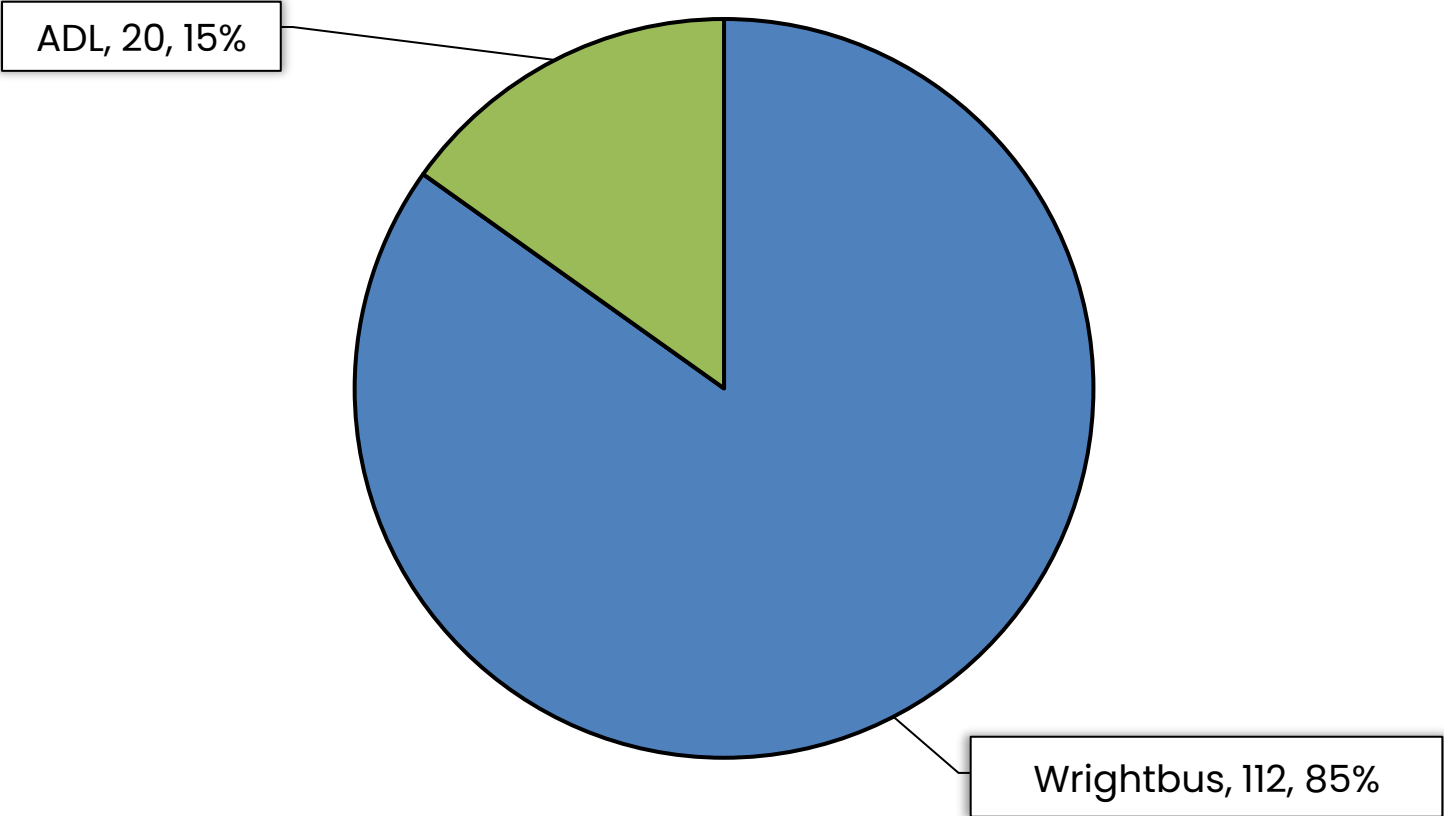
Some fleets expected to continue growing in years to come including in West Midlands, Belfast and Crawley.

Outside urban centres HFC uptake is still fledgling.

Region	Share of UK HFCs
England (excluding London)	48%
Scotland	19%
Northern Ireland	17%
London	15%
Wales	0%

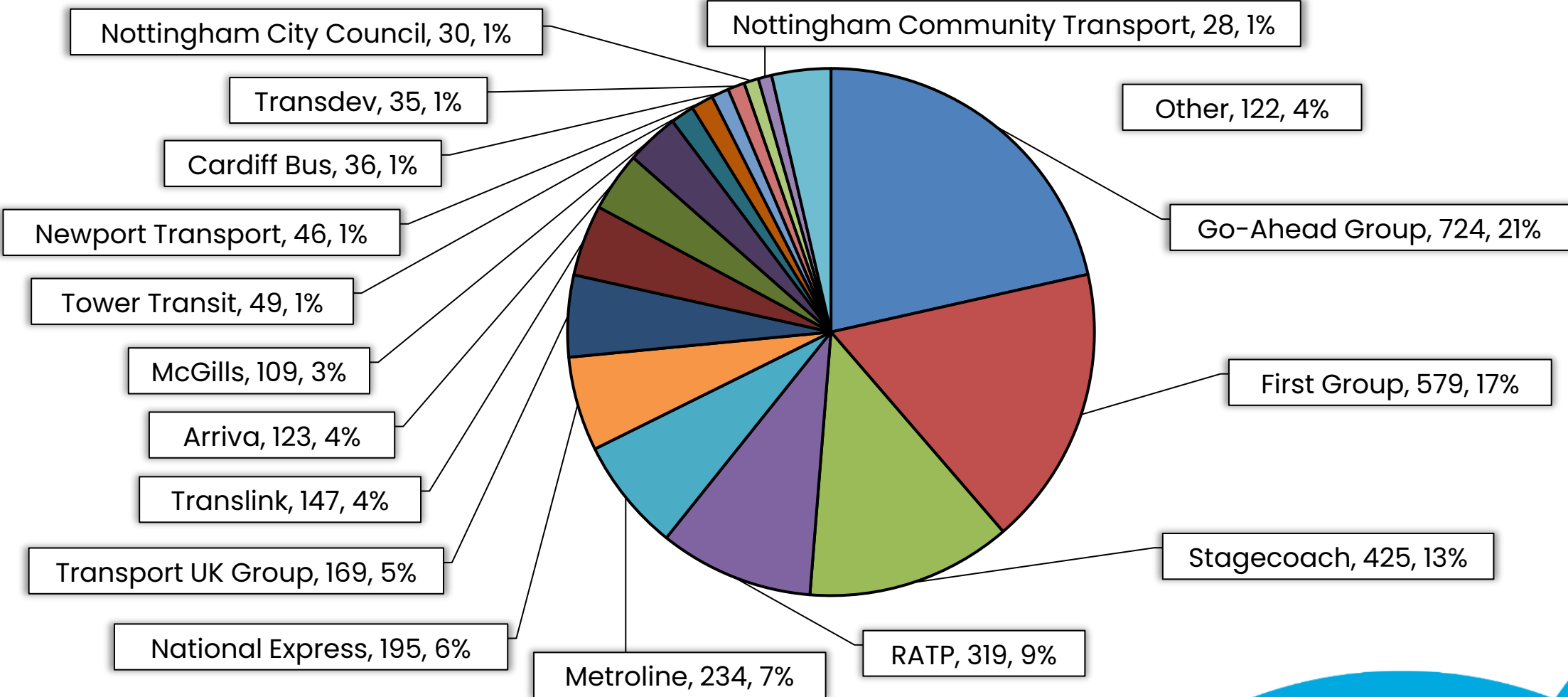
Hydrogen Fuel-Cell Buses by OEM

3 suppliers of Hydrogen buses to UK



ZEBs In-Service by Operator

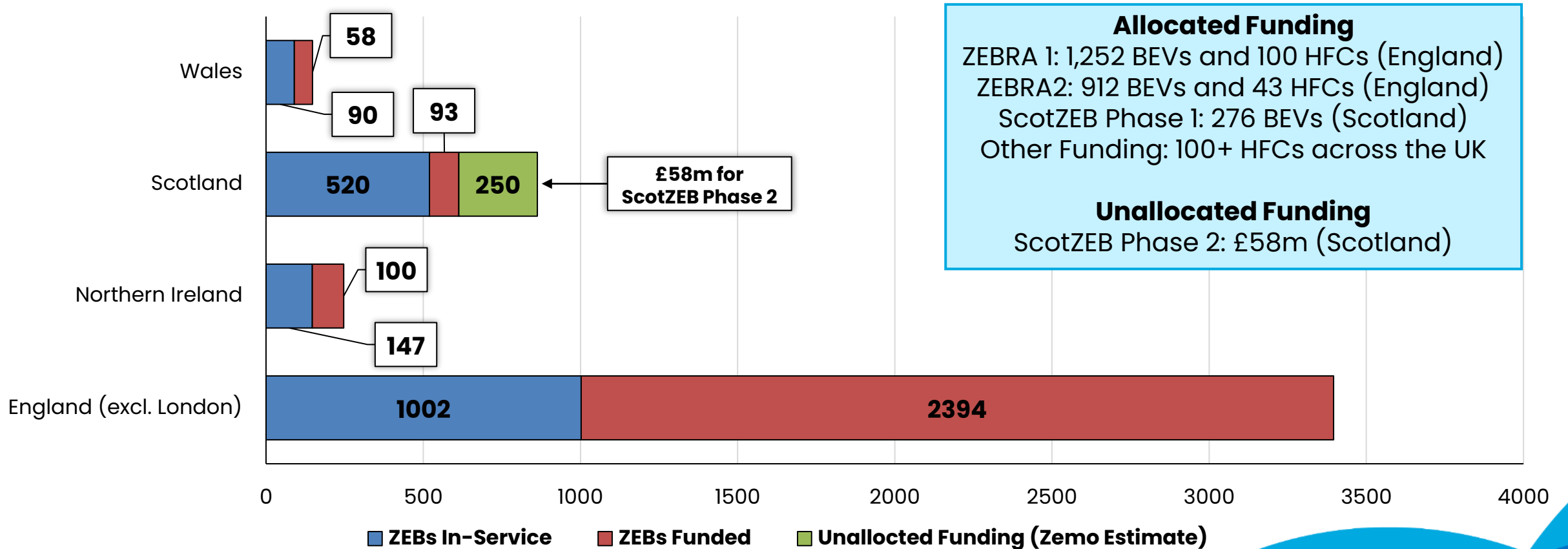
Nearly 3,500 ZEBs in-service across the UK



In-Service and Funded ZEBs in the UK



Over **1,750 ZEBs in-service in UK** (excluding London), with **funding allocated to a further 2,600**. Zemo estimate that an **additional 250+ ZEBs could be funded** through as yet unallocated settlements in Scotland.



*Figures **don't** include vehicles in London.

In-Service and Funded ZEBs in the UK



ZEBs are expected to reach **15% of the UK fleet** by 2025/2026

Nation/Region	Fleet Size	Number of ZEBs In Service	% of Respective National Fleet (In Service vehicles ONLY)	Number of Additional ZEBs Funded*	% of Respective National Fleet (Currently In Service and Funded Vehicles)
London	8600	1611	18.7%	765	27.6%
England (including London)	31000	2613	8.4%	3159	18.6%
England (excluding London)	22400	1002	4.5%	2394	15.2%
Scotland	3700	520	14.1%	93	16.6%
Wales	2215	90	4.1%	58	6.7%
Northern Ireland	1400	147	10.5%	100	17.6%
United Kingdom	38315	3370	8.8%	3410	17.7%

**Doesn't account for as yet unallocated ScotZEB2.*