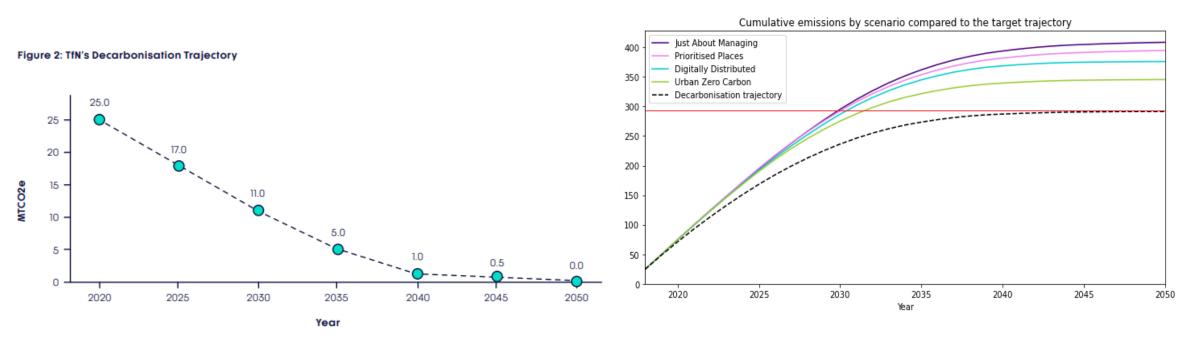
Hydrogen Transport Conference – 10th December 2024



TfN's Decarbonisation Trajectory



56% reduction in emissions from 2018 to 2030

Close to zero by 2045

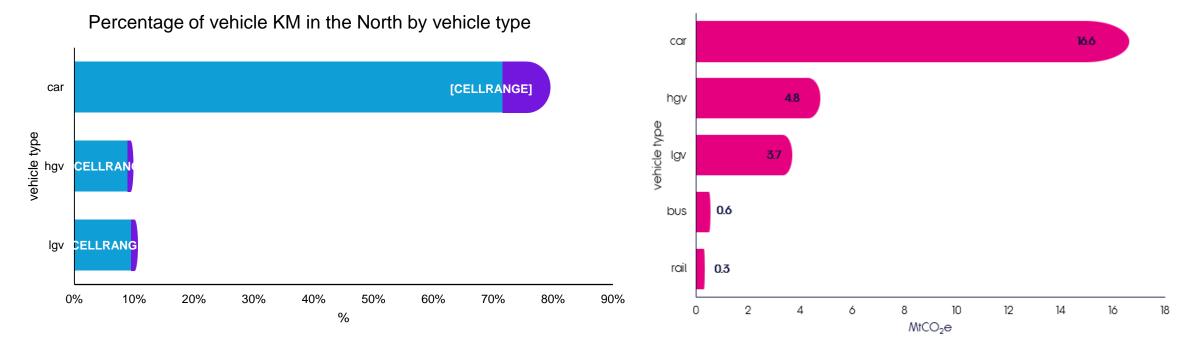
96% reduction in emissions from 2018 to 2040

A total carbon budget of approximately 300 mega-tones of CO₂e



Provisional Carbon Baseline Figures (2023)

Emmissions by vehicle type (MtCO₂e)





Decarbonising bus and rail is less important than making sure they run efficiently, reliably and where and when we need them to..will ZEVs ultimately help us achieve this? Bus and rail add less than 1 million tonnes combined



But the air quality benefits can be really significant



Updating our Pathway – work in progress

		2025	2030	2035	2040	2045	2050
zero emissions share of sales	Cars	28%	80%	100%	100%	100%	100%
	Vans	28%	80%	100%	100%	100%	100%
	Artic HGV	0	25%	50%	100%	100%	100%
		0	250/	1000/	10000	1000/	4000/
	Rigid HGV	0	25%	100%	100%	100%	100%
Public transport CO2 reduction on baseline	Bus	25%	50%	75%	100%	100%	100%
	Rail	0	25%	50%	50%	75%	100%

TfN's proposed Fair and Prosperous Transition pathway – work in progress – and these are only the ZEV rows!



Maps the possible hydrogen demand from heavy duty transport uses

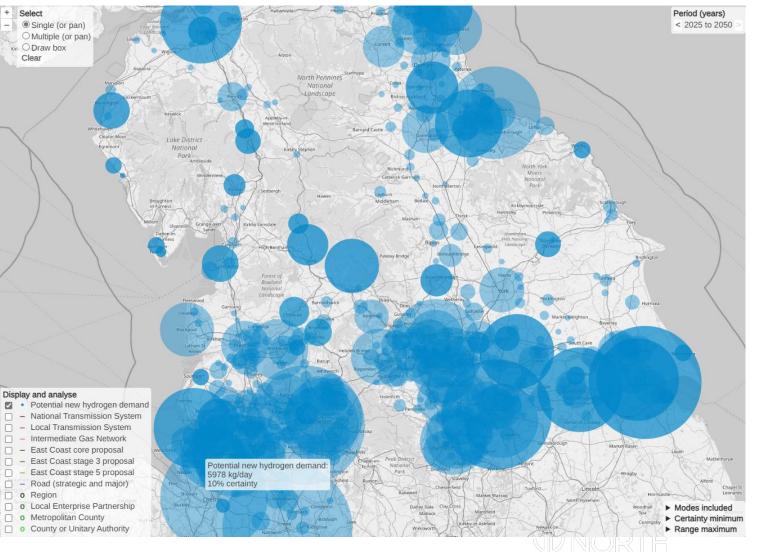
Utilises TfN's analytical frameworks

Aggregates into clusters to highlight those areas of greatest potential

For use by local authorities, hydrogen supply and distribution and transport operators

Recognises high levels of uncertainty

Multi-system co-operation



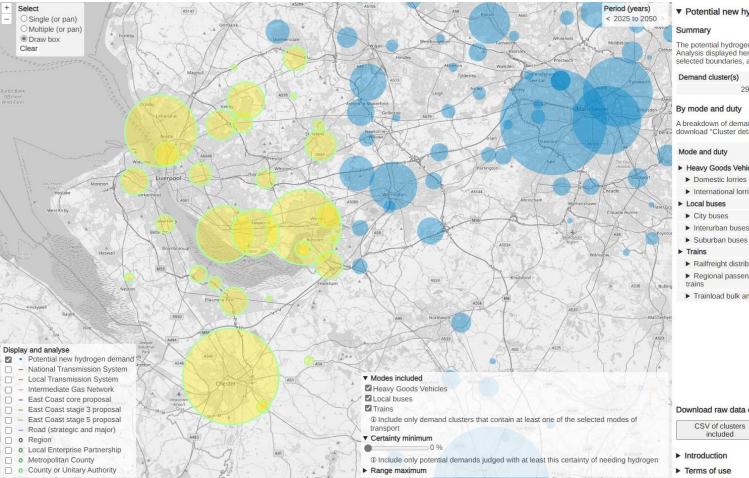
Northern Gas Networks ERM

https://ngn-tfn-h2-vis.ermapps.com/

Draw boxes around areas of interest

Filter by mode and certainty levels

Possible daily demand by mode by 2050



Potential new hydrogen demand

The potential hydrogen demand most likely to be new in the year period selected. Analysis displayed here includes any clusters directly selected, clusters within selected boundaries, and clusters within range of selected infrastructure.

Demand cluster(s) Daily hydrogen demand (kg) Certainty (%, weighted)

22,990	30%

A breakdown of demand by mode and vehicle duty. For full data by individual cluster, download "Cluster details as CSV" below.

Mode and duty	Daily hydrogen demand (kg)	Certainty (%, weighted)	
Heavy Goods Vehicles			
Domestic lorries	4,067		30%
 International lorries 	1,022		30%
Local buses			
 City buses 	1,157		10%
Interurban buses	267		50%
 Suburban buses 	1,875		30%
 Trains 			
 Railfreight distribution 	6,127		30%
 Regional passenger trains 	5,978		<mark>10</mark> %
Trainload bulk and metals	2,501		50%

Download raw data or reset selection

CSV of clusters GeoJSON of current map Clear all selection selections



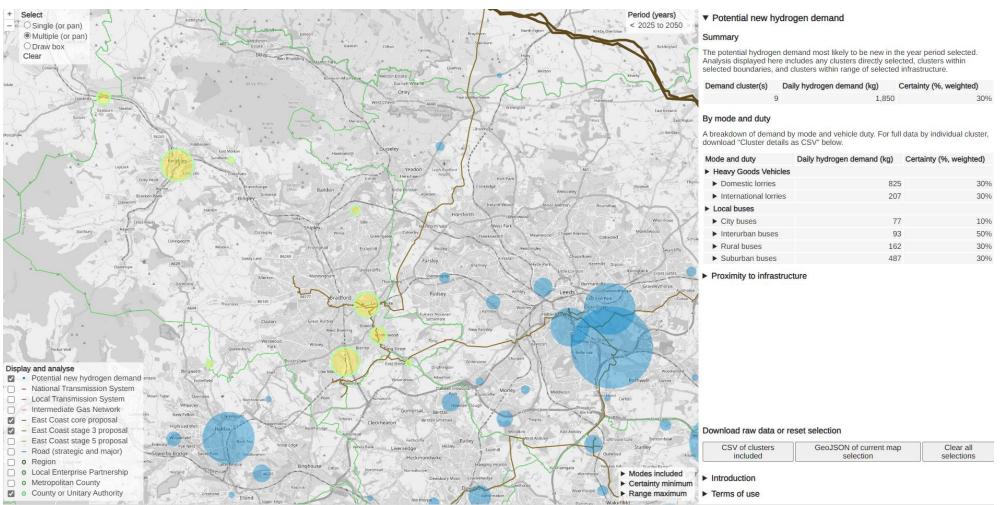






Highlight multiple features of interest

Apply infrastructure features and administrative boundaries



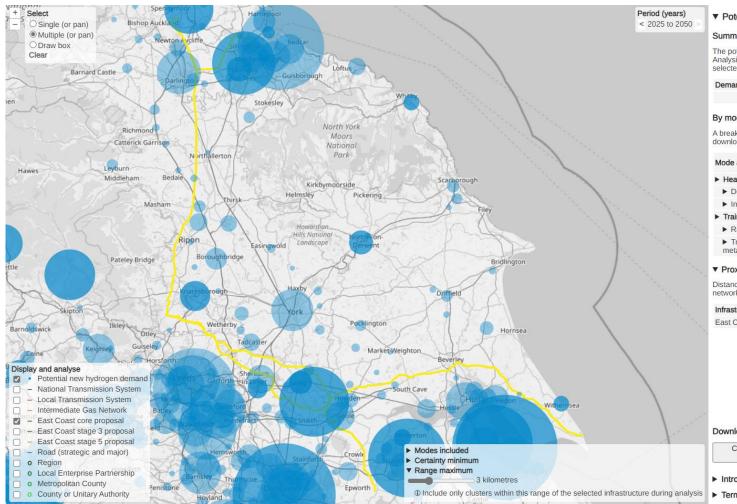
GD NORTH







Understand possible demand in proximity to selected infrastructure (e.g. planned hydrogen pipelines).



Potential new hydrogen demand

Summary

The potential hydrogen demand most likely to be new in the year period selected. Analysis displayed here includes any clusters directly selected, clusters within selected boundaries, and clusters within range of selected infrastructure.

Demand cluster(s)	Daily hydrogen demand (kg)	Certainty (%, weighted)
23	5,860	31%

By mode and duty

A breakdown of demand by mode and vehicle duty. For full data by individual cluster download "Cluster details as CSV" below.

Mode and duty	Daily hydrogen demand (kg)	Certainty (%, weighted)
Heavy Goods Vehicles		
Domestic lorries	2,300	30%
 International lorries 	580	30%
Trains		
Railfreight distribution	32	30%
 Trainload bulk and metals 	2,946	50%

Proximity to infrastructure

Distances from each demand cluster to its nearest part of each of the infrastructure networks mapped.

Infrastructure	Nearest (km)	Furthest (km)	Average (km, weighted)
East Coast core proposal	0.2	2.9	1.9

Download raw data or reset selection

CSV of cl includ		GeoJSON of current map selection	Clear all selections
Introduction	1		



Northern 3 Gas Networks



