

**IEA Bioenergy
Conference 2015**

**UK Biomethane Market Update
*50 Plants Injecting Gas by End 2015***

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UK Biomethane Market Update

1. CNG Services Ltd
2. UK Gas Grid
3. 2013 – 15 Market Statistics
4. Bio-CNG
5. Benefits and Market Forecast
6. Conclusions

47 new projects in 2014 and 2015

CNG SERVICES LTD

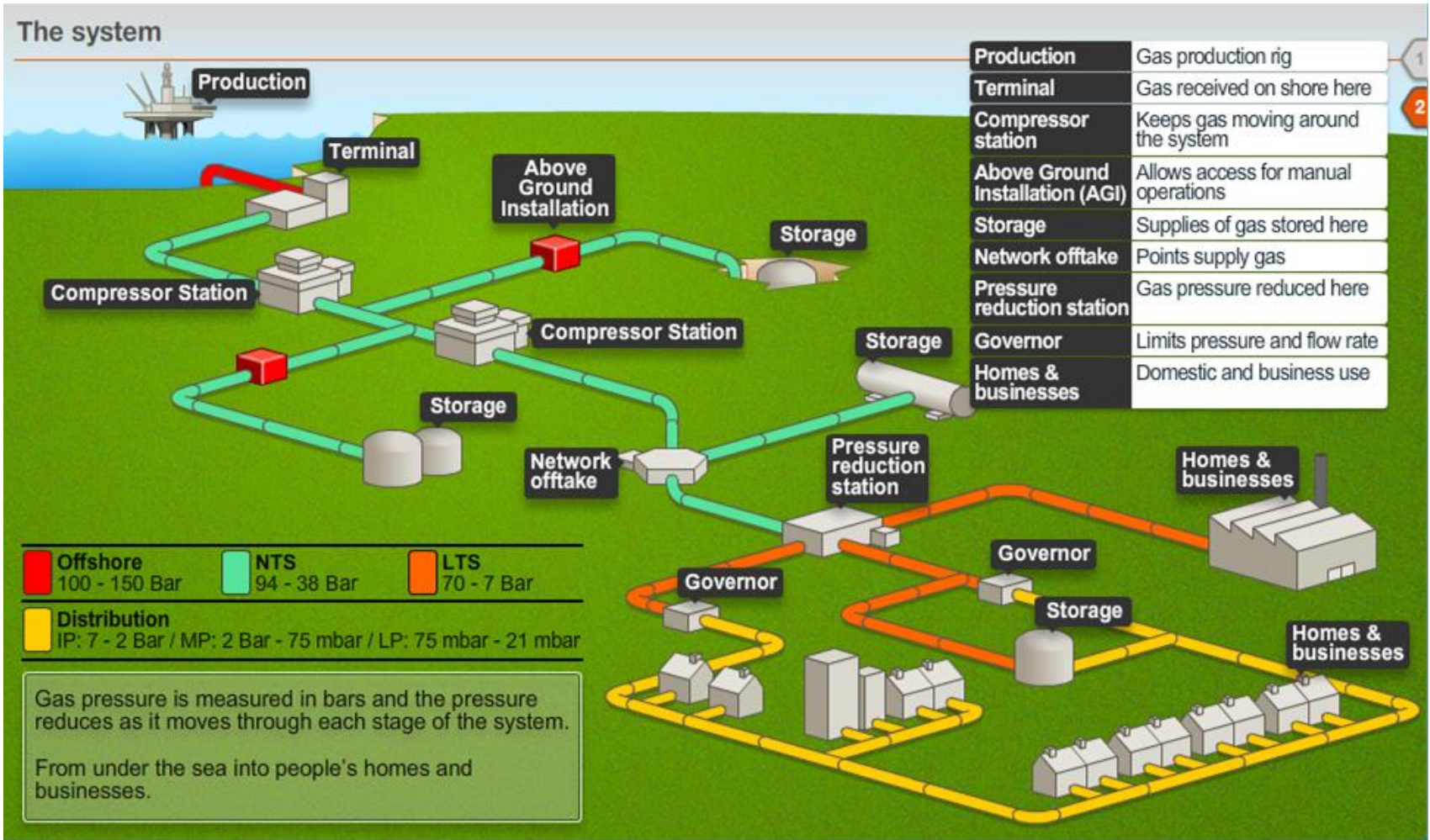
CNG Services Ltd

- Supports projects to inject biomethane into the gas grid
 - 50 projects by end 2015, we have worked on 45
- Bio-CNG as a fuel for trucks
 - Part own CNG Fuels Ltd which owns UK's largest CNG filling station and is developing a new one in Leyland
 - Sells Bio-CNG (100% biomethane)



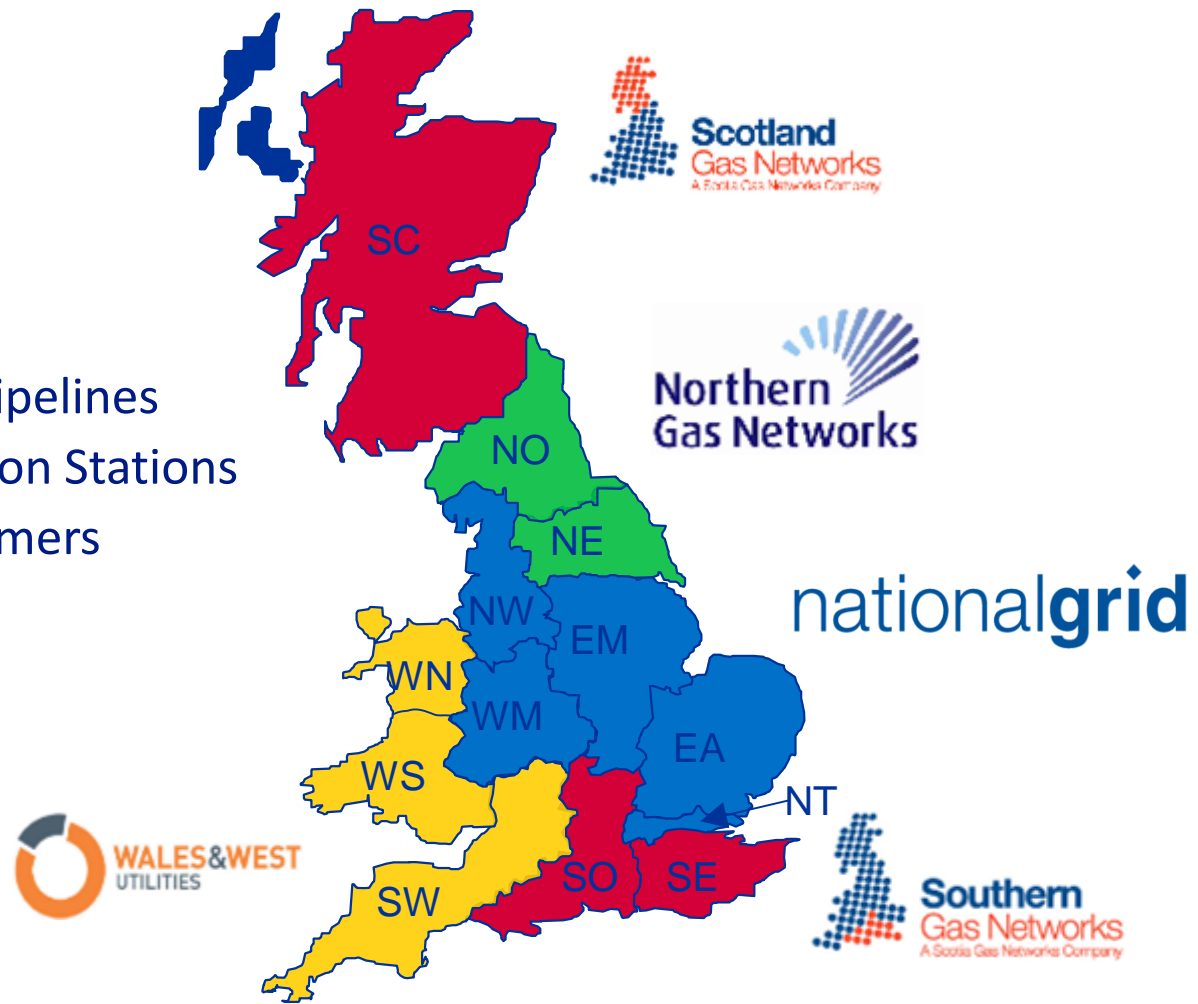
We work on innovation in natural gas

UK Gas Networks



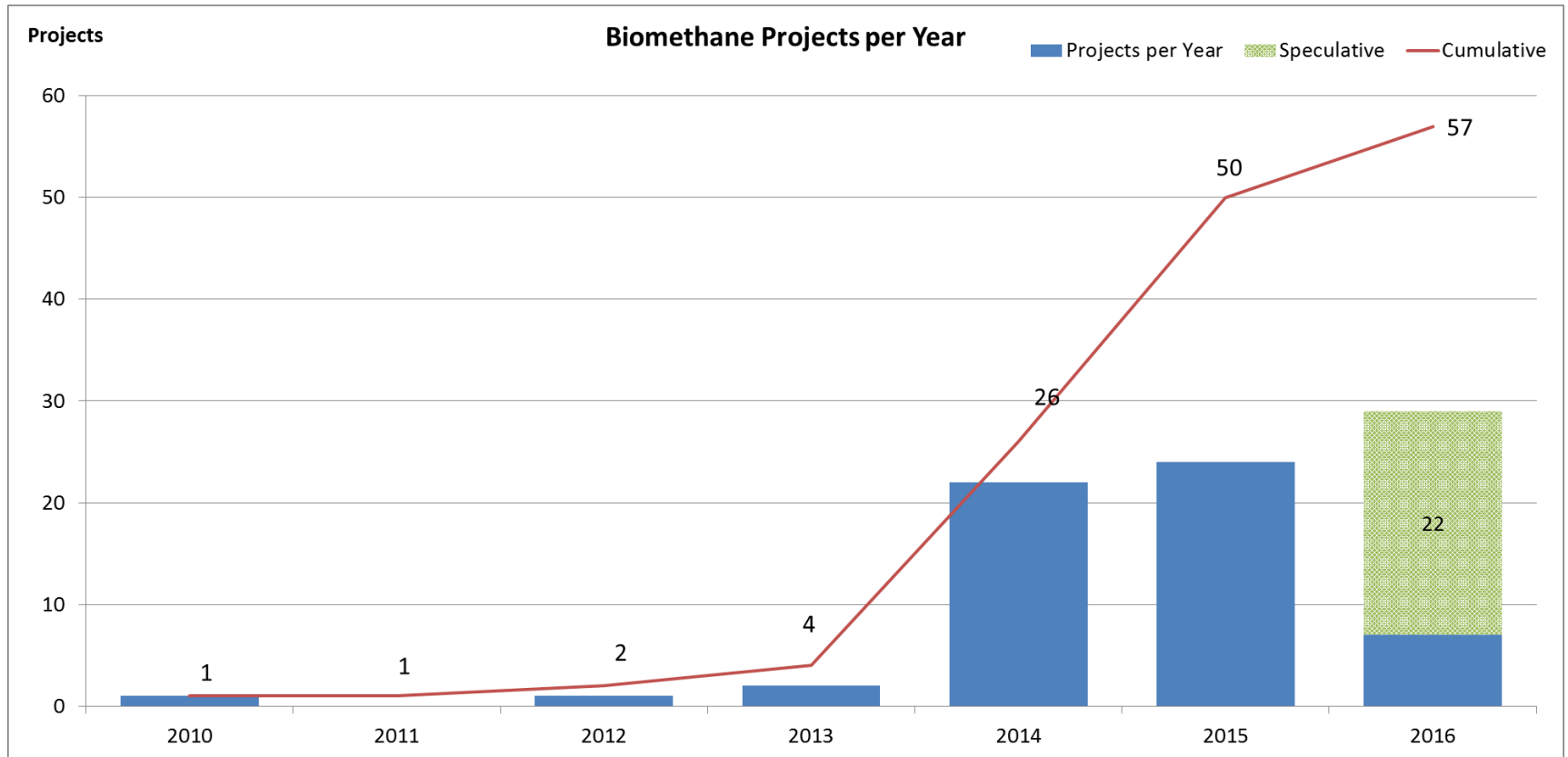
UK Gas Distribution Networks

- 250,000kms of Pipelines
- Pressure Reduction Stations
- 21 million Consumers



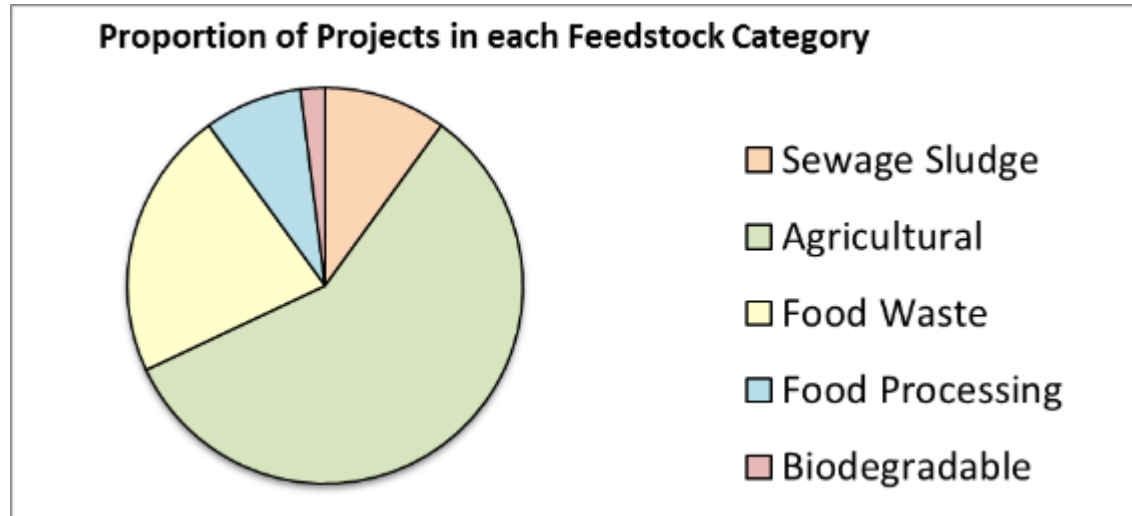
UK BIOMETHANE MARKET END 2015 STATISTICS

Biomethane projects per year 2010-2015



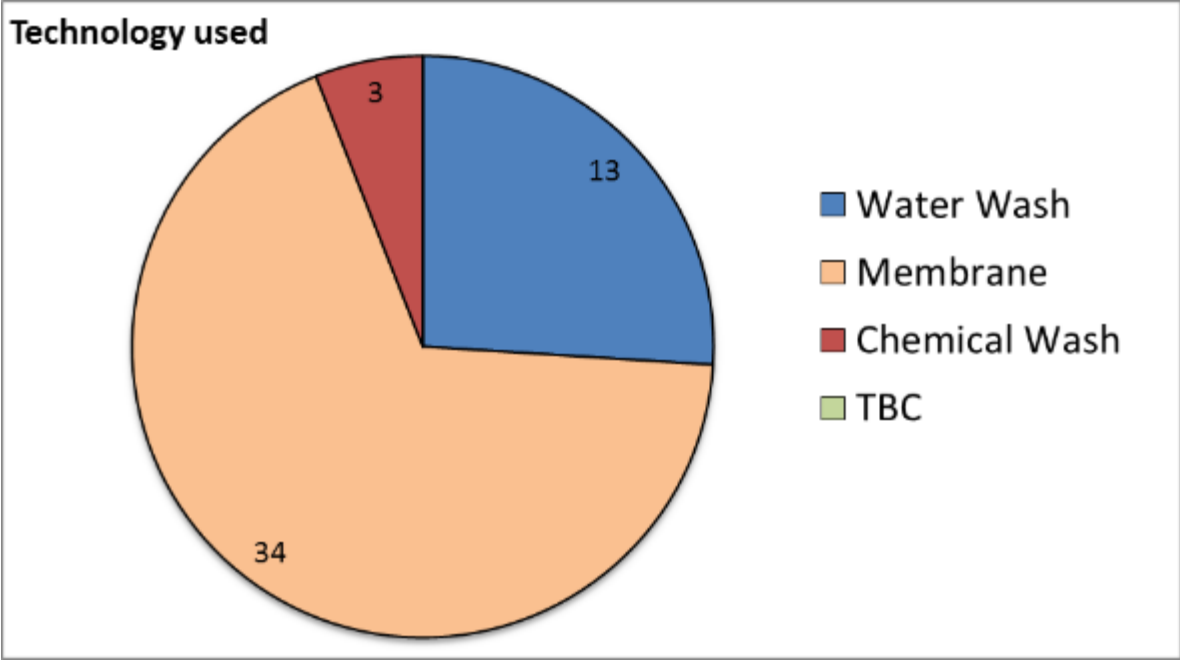
1 in 2012, 2 in 2013, total of 50 projects injecting gas by end 2015

Proportion of Projects in Each Feedstock Category



GGG Feedstock Category	Number projects in Category	%
Sewage Sludge	5	10%
Agricultural	29	58%
Food Waste	11	22%
Food Processing	4	8%
Biodegradable	1	2%
Unknown	0	0%
Total Projects	50	

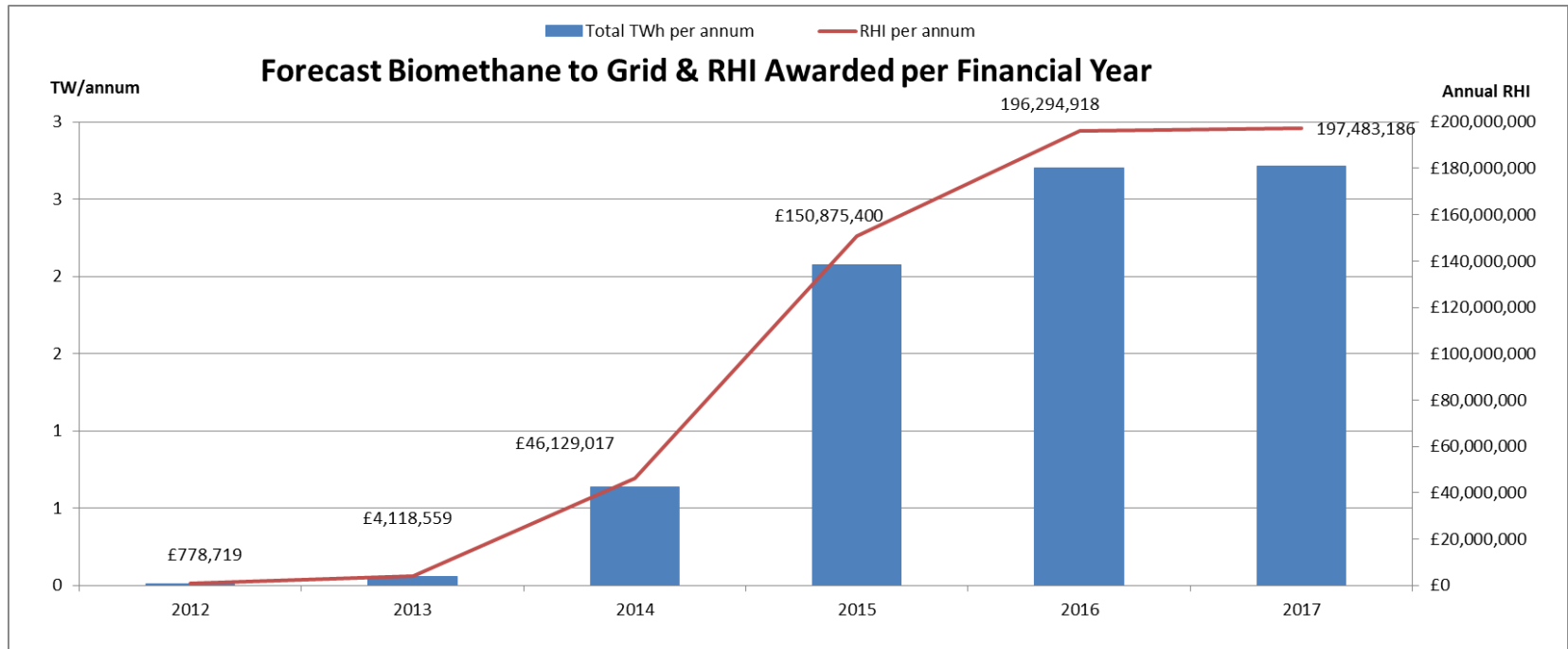
Proportion of Projects by CO2 Removal Technology



Technology	Number of Projects	%
Water Wash	13	26%
Membrane	34	68%
Chemical Wash	3	6%
TBC	0	0%
Total Projects	50	

Annual Biomethane to Grid and Financial Support (RHI) for 2012-2015

Note – RHI commitment is max based on capacity, actual lower in 2015 due to project build up



Biomethane to grid is Renewable Heating technology with highest kWh

BIO-CNG USING 30 BAR GAS GRID

Dedicated CNG – 340 bhp



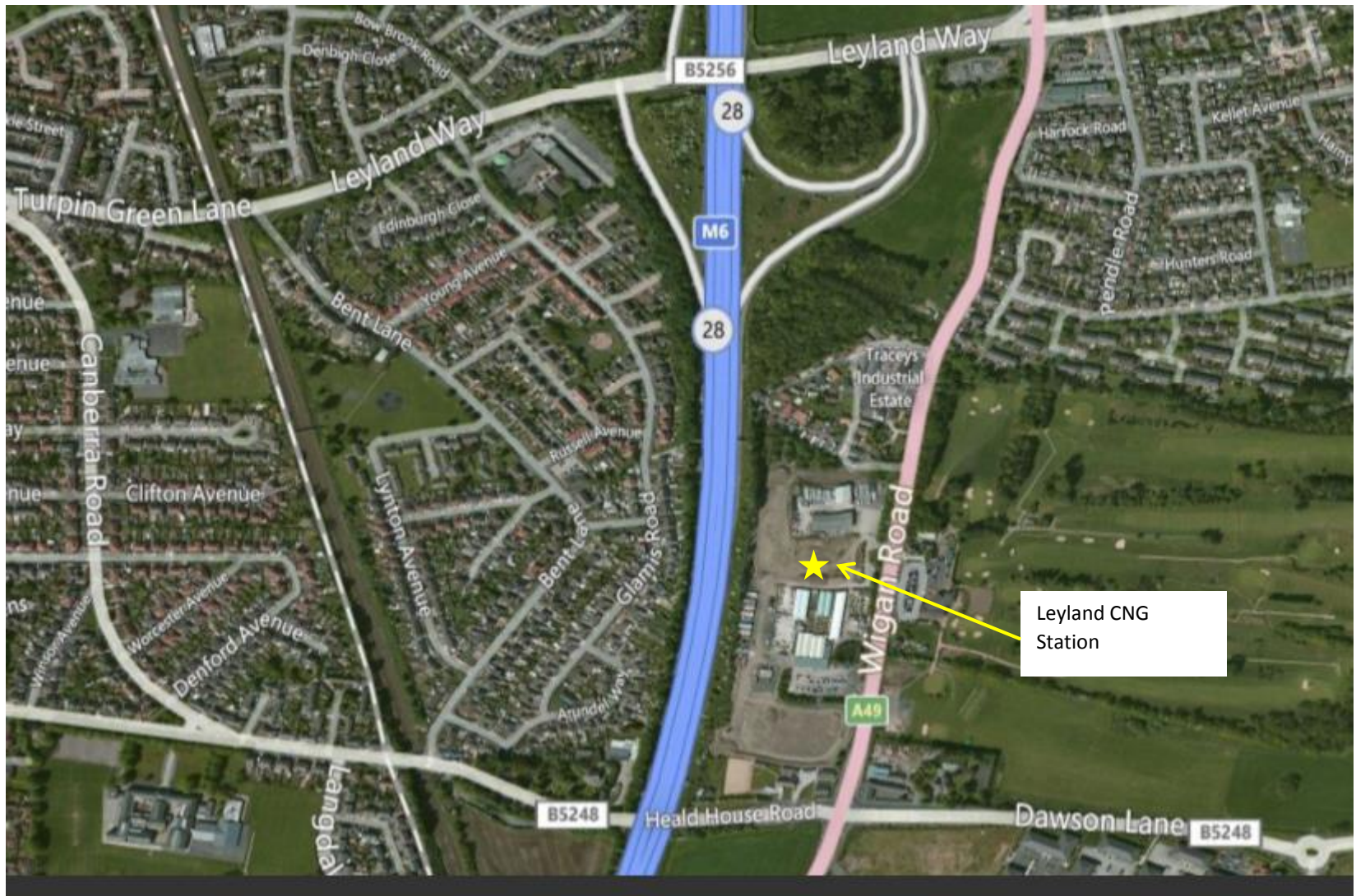
Dedicated CNG tractors are here after 14 years of waiting.....first 5 in UK in a project led by CNG Services Ltd

Benefits of Using LTS

- Lower pressure lift
 - Reducing electricity used in compression
 - Reduces number of stages of compression from 5 to 2
- Higher flow rates
 - Compressors run for less time, lower maintenance
 - Very high capacity per CNG station
- No leakage of gas in LTS
 - Higher pressure grids have no methane leakage
- Dry Gas
 - No gas drier needed

The 6,000 km of 20 – 35 bar LTS means that 95% of major UK distribution centres are within 2 km of the ideal energy source is a vital national **asset**

Leyland LTS CNG Station – 30 Bar grid



Leyland LTS CNG Station - Overview

1. Leyland LTS CNG station can refuel 500+ HGVs/day and supply 100% renewable Bio-CNG to parties such as Waitrose
2. Accessible 24/7/365 and will operate on an unmanned basis
3. Scheduled to open in December and will be equipped with:
 - 2 CNG compressors with a total annual capacity of more than 25 million kg
 - 2 refuelling lanes with 4 independent fast-fill refuelling dispensers
 - 2 separate loading bays offering fast-fill for CNG trailers



Leyland LTS CNG Station



John Lewis signs up to use new high-pressure-connected public CNG filling station for HGVs

16 July 2015 Hayley Pink

[John Lewis Partnership](#) is the first major operator to sign up to use a public-access compressed natural gas (CNG) filling station that will open later this year.

[CNG Fuels](#) has secured planning permission for the new station to be located close to junction 28 of the M6 in Lancashire.

It will be capable of 'fast filling' 500-plus HGVs per day, or as much as 3,500kg of CNG per hour, as well as also supplying 100% renewable biomethane (Bio-CNG).

Philip Fjeld, director at CNG Fuels, said: "Our customers can save more than 40% of their diesel cost, even after the recent drop in diesel prices, and cut CO₂ emissions by more than 20% by using CNG.

"If fleets choose to fuel their trucks with Bio-CNG, they will be running on 100% renewable gas."

Further public-access stations are also in the pipeline for CNG Fuels, he added.

[Waitrose](#), part of the John Lewis Partnership, has a regional distribution centre less than one mile from Leyland LTS CNG station and will be the anchor customer for the CNG station.

Justin Laney, general manager, Central Transport, John Lewis Partnership, said: "We are proud of the efficiency of our distribution network, and a key element is running a low-carbon fleet.

"We see the use of methane, and in particular biomethane, as the main opportunity to make a step change in the carbon emissions of our heavy truck fleet."



UK has 6,000 km of 30 bar grid located close to most major distribution centres

CNG Fuels and Barrow Shipping Ltd



Gas can be used to fuel trucks on CNG

'Certificates'

24 Projects signed up with Barrow Shipping and REAL GGCS

Organic Material

Processing via Anaerobic Digesters

AD Developer

Clean-up plant and grid injection

Purchase of biomethane energy

Barrow Shipping

Sale of CNG in Leyland

Normal grid gas

Gas Distribution Network

Inject gas into grid

Leyland Customers

Biomethane to Grid Conclusions

- Over 50 projects by end 2015, further 100 by end 2020 if tariffs OK
 - 46 projects completed in period 1 June 2014 to 31 Dec 2015
- Around 2 TWh by end 2015
 - UK total gas demand 750 TWh
 - 140,000 tonnes of LNG not imported
- Bio-CNG using 30 bar grid and dedicated CNG trucks is a great way to decarbonise haulage

UK biomethane market growing fast, delivering significant benefits and helping meet 2020 renewable energy targets