

APSE

Vehicle Maintenance & Transport Advisory Group

NORMAN HARDING
CORPORATE FLEET MANAGER
LONDON BOROUGH OF HACKNEY

AWARDS WON 2017/18



ALTERNATIVE FUELS STRATEGY



- 2008 – 2017 FAME BIODIESEL

- 2017 - ????? HYDRO-TREATED VEGETABLE OIL

- 2012 – 2025 ELECTRICITY

ALTERNATIVE FUELS STRATEGY



- 2008 – 2017 FAME BIODIESEL

ISSUE	SOLUTION
Fuel for Food	UCOME
Bulk Storage	Non-Plastic Tanks Consume Appropriately
Quality	B20/30 - EN16709 B100 – EN14214
Maintenance	Fuel Filter / Oil Drain Frequency
Staff Objections	Excuses to fail
Warranty	Negotiation

ALTERNATIVE FUELS STRATEGY



• 2008 – 2017 FAME BIODIESEL

Year	Total annual CO2 produced if no biofuels used (tonnes)	Total annual CO2 produced using FAME biofuels (tonnes)	CO2 savings achieved from using FAME Biofuels (tonnes)	%
2010/11	2876.74	2843.32	33.42	1.16%
2011/12	2939.2	2798.76	140.44	4.78%
2012/13	3160.77	2973.09	187.68	5.94%
2013/14	3429.46	2884.12	545.34	15.90%
2014/15	3448.24	3094.56	353.68	10.26%
2015/16	3361.62	3054.08	307.54	9.15%
2016/17	3422.83	2572.88	849.95	24.83%

ALTERNATIVE FUELS STRATEGY

PAST

- 2008 – 2017 FAME BIODIESEL

CO₂



Robust



Renewable



Cost



FOSSIL
FUEL FREE



ALTERNATIVE FUELS STRATEGY



- 2017 HYDRO-TREATED VEGETABLE OIL

HVO AS A TRANSITION FUEL

ALTERNATIVE FUELS STRATEGY



• 2017 HYDRO-TREATED VEGETABLE OIL

- No vehicle modifications
- No additional vehicle maintenance, and
- No storage issues.
- Vehicle manufacturers refer to it as a 'drop-in' fuel and do not have issues with warranty.
- Widely accepted in USA and Europe.
- Reports suggest high savings of CO₂, NO_x, Particulates.

ALTERNATIVE FUELS STRATEGY



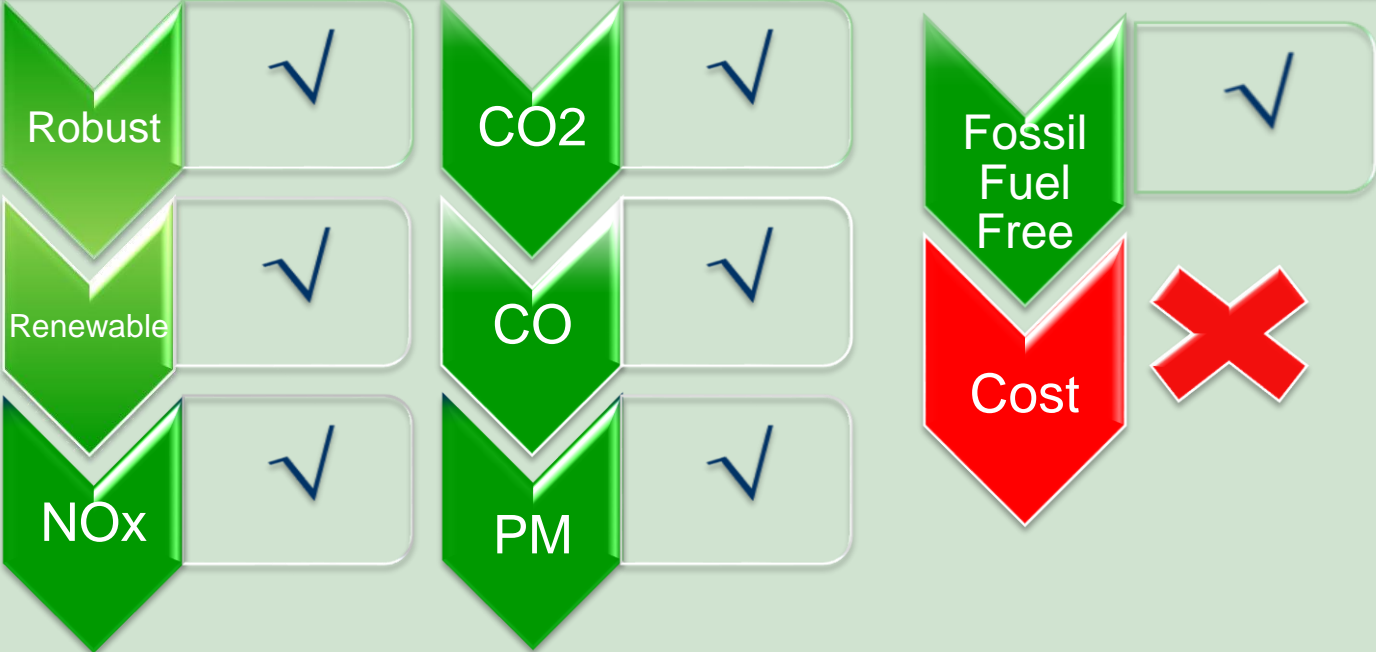
• 2017 HYDRO-TREATED VEGETABLE OIL

(g/km)	CO	NOx	CO2	PM
Baseline - EN590	0.017	0.238	879.9	0.006
HVO	0.014	0.072	776.2	0.004
	-17.65%	-69.75%	-11.79%	-33.33%
Significant?	No	Yes	Yes	No

ALTERNATIVE FUELS STRATEGY



• 2017 - ?? HYDRO-TREATED VEGETABLE OIL



ALTERNATIVE FUELS STRATEGY



• 2017 – 2025 ELECTRICITY

- **VEHICLES**
 - 43 X ON FLEET
- 45 Depot Based Charging Points – Fleet Use Only
 - 40 X 7KWh
 - 5 X 22KWh
 - 13 X SITES
- 63 Street Based Charging Points – Public Use
 - 3 Rapids - Hackney Managed
 - 44 - Source London Managed
 - 16 - Lamp Column Hackney Managed



ALTERNATIVE FUELS STRATEGY



• 2017 – 2025 ELECTRICITY

ISSUE - VEHICLES	SOLUTION
Cost	Whole Life Assessment
Mileage / Load Reduction	Application
Charging Restrictions Charging Time 80/20	Depot based charging infrastructure
Noise (lack off)	External warning
Charging Cable Storage	
Manufacturer / Dealer Support	



ALTERNATIVE FUELS STRATEGY



• 2017 – 2025 ELECTRICITY

ISSUE - INFRASTRUCTURE	SOLUTION
Back Office Management Data Mileage input Data cost / hosting fees Connectivity signal	???
Facilities management	???
Power Requirements	???
Procurement Specification / Technical Standards development	???



ELECTRIC VEHICLE FUTURE

VEHICLE BATTERY DEVELOPMENT

- Fast charging
- Range Improvements

CLEAN ELECTRICITY GENERATION

- Wind
- Solar

ON-SITE ENERGY STORAGE

- Recycled batteries

VEHICLE TO GRID ENERGY TRANSFER

- Potential to sell energy back to the grid

SUPPLY CHAIN CONVERGENCE

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