

# STAGECOACH GROUP

10 Dunkeld Road  
Perth  
PH1 5TW  
Scotland

T +44 (0)1738 442111  
F +44 (0)1738 643648

stagecoachgroup.com

BS/RMcF

25<sup>th</sup> November 2009

James Skinner  
Chairman  
Sustraco Ltd  
Heron House  
Chiswick Mall  
LONDON  
W4 2PR

Dear Mr Skinner

As one of the sponsors of the Industry Taskforce for Peak Oil and Energy Security (ITPOES) Stagecoach wishes to support the development of new, low-cost forms of public transport that are characterised by their independence from fossil fuels, zero net carbon emissions and high levels of energy efficiency. Stagecoach therefore supports Sustraco's aim of providing carbon neutral public transport by use of renewable biomethane as fuel and energy efficient hybrid motive power, employing brake energy recovery.

It is envisaged that such vehicles could enhance the profitability of Stagecoach as well as meeting the urgent need for change highlighted in the ITPOES Report.

In the light of the above considerations Stagecoach is therefore prepared to give its support to the work of Sustraco in developing Ultra Light Rail in collaboration with other pioneering public transport companies, notably Parry People Movers Ltd and Trampower Ltd together with Sustraco's European technical consortium BioRail.

Stagecoach does not have funding available at present for investment in this work but is able and willing to give its support by facilitating the trialling and demonstration of a new Sustraco vehicle with 200 passenger capacity, built to the attached draft specification, through its UK light rail operations.

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James Skinner  
Sustraco Ltd

The trial and demonstration of the new vehicle will be dependent on successful evaluation of its performance and reliability to ensure that it can perform at least as reliably and efficiently as the other trams currently delivering Stagecoach services.

Subject to the successful operation of the trial vehicle Stagecoach envisages that there will be good opportunities for further deployment of similar vehicles on light rail systems both in the UK and overseas.

Kind regards



**Brian Souter**  
Chief Executive

enclosure

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## **ULR Vehicle Specification. (200 capacity)**

### **General Dimensions.**

Overall length – complete tram 21.8 m.

Overall width 2.4 m.

Overall height 2.9 m.

Rail gauge 1435 mm. (standard)

Passenger cell, floor height from pier deck 400mm. (minimum 60% low floor)

Doorway height 2120 mm. Double width in low floor area.

Interior headroom 1930 mm.

Double ended.

Capacity: 200 passengers

No of seats 44

Space for 2 wheelchairs.

### **Operational performance.**

Nominal speed up to 80 kph maximum

Maximum gradient 10%

Minimum radius 15 m.

Nominal axle loading 5t. (7t maximum fully laden)

### **Safety**

Meeting EU STD (street running and crash protection)

RVAR compliant

### **Environmental**

No external supply

Emissions below EURO 6 environmentally friendly vehicle specification

Noise < 70db(A)

CO<sub>2</sub> emissions < 800g/km

### **Motive power**

Hybrid: 100 kW Generator set with 90kW, 1kWh Energy storage unit.

Motors 2 x 90 kW

Fuel: renewable biogas (carbon neutral)