Coca-Cola in trials of CBG and aerodynamics

Coca-Cola Enterprises has begun trials of three 21-tonne Iveco Stralis trucks: one running on biomethane gas (CBG), with a standard Bevan curtainside body; another the same, but using Iveco's Cursor 8 ultra low-emission 310hp EEV diesel engine; and the third, as the second, but fitted with the aerodynamic Bevan21 body.

The CBG-powered rigid is the first such unit to be operated anywhere in the world by CCE, and the first biomethane-powered Stralis to hit the UK.

Darren O'Donnell, logistics asset manager at CCE, explains that the trial will be used to determine the firm's long-term sustainable transport strategy and that the company has installed a roadgas LCBG refuelling station at its distribution facility in Enfield, Middlesex, for the purpose.

"Our primary reason for selecting [CBG] is that it has the lowest carbon intensity of all commercially available alternative fuels, allowing us to benefit from the best possible well-to-wheel

[carbon] saving," says O'Donnell.

"The gas used comes from a landfill site in Surrey, which means it is not depleting any fossil resources. This effectively allows us to power the Stralis using latent energy recovered from rubbish," he adds.

Meanwhile, Iveco says that the Stralis – an AD260S30Y/FS-D CNG – was purpose-built on its production line and is recommended for operation in the UK with CBG from Gasrec. The unit has a six cylinder 7.8 litre Cursor 8 engine, producing 300hp at 2,000rpm and 1,100Nm of torque between 1,100 and 1,650 rev/min, matched to an Allison 3500 six-speed automated gearbox.

O'Donnell says there will be detailed independent monitoring by Cenex, the government's centre of excellence for low carbon technologies, with vehicle trials planned for Millbrook later this year.

He also says that CCE will compare the performance of its CBG-powered standard body Stralis against the direct diesel equivalent, while also running "head-to-head [tests], to see whether the more streamlined unit can deliver any worthwhile benefits in terms of fuel savings".

And he adds: "Aerodynamic systems need a long, steady run to deliver optimum results, in terms of mpg efficiency, whereas these two new trucks are on multi-drop work."

Bodybuilder Bevan says its aerodynamic offering, which has a curved roof, moulded air deflector and cab collar, is designed to reduce wind resistance – and claims fuel bills can be reduced by 15%.

All of the rigids have compact day cabs and full air-suspension for a flat chassis, whether the vehicles are unladen, laden, lowered for manual unloading or raised for dock loading. They are also all equipped with rear-steer axles.

Chilled flower transporters are cool

Flowers and pot plants supplier RA Meredith & Son Nurseries has taken delivery of Gray & Adams bespoke temperature-controlled rigids, equipped to transport Dutch trolleys.

Meredith's transport manager Gary Counsell explains that the cages measure 1355 x 570mm, and that the Gray & Adams design gets 28 cages into its new 18 tonne, 9m rigids in an overall width of 2600 mm.

"Gray & Adams worked with me on the vehicle dimensions to maximise the number of cages. By arranging the cages differently and by moving to a slightly longer body, we have managed to increase the number per vehicle from 26 to 28," he says.

Behind the scenes, that necessitated reassessing the panel design for the roof, sidewalls, floor and back doors. Counsell says the bodies were constructed using techniques to maximise the internal loading space, while maintaining performance of the temperature-control to ATP Class C.

Meredith, he says, went for refrigerated vehicles this time, with a specially designed air return system to ensure sufficient airflow around the produce, as opposed to the previous dry freight boxes with heaters, to enhance product quality transported throughout the year.

Making that work meant recessing all internal equipment, so that there was no protrusion into the internal space. For example, the damage-protection kickstrips were recessed into the sidewalls to give a maximum 2,500mm of space between them.

Also, the roof and floor loadlok tracking was designed to sit flush with the floor. A specially designed slimline light switch was even built in.

Then again, the Meredith bodies also have Gray & Adams Eco-Aer aerodynamic packages of large radiused cappings and 'vortex generators'. And, although these are claimed to offer advantages in terms of reduced fuel consumption, the rounded cappings do require the front bulkhead thickness to increase slightly.

In a normal operation, this would not cause any problem, but when space is this critical, it needed an engineering solution. Says Counsell: "We decided to try this to enhance fuel economy, but also to offset the additional cost of opting for refrigerated vehicles this time."

As for the rest, Meredith's rigids use Carrier Supra 850 undermount fridges (for extra cab space) and have Dhollandia DH-SM retractable tail lifts. The chassis are DAF FA CF65.

Counsell believes the move to Gray & Adams, will pay long-term dividends.

"We chose Gray & Adams, as we hope to keep the vehicles for six years, with the intention of remounting them onto new chassis at the end of this term – which should give us another four or five years' operational life."

City Link selects Eurocargo for 7.5 tonners

Having evaluated a range of commercial vehicles, express delivery firm City Link says it has selected the Iveco Eurocargo for all 7.5 tonne operations.

Mark Johnson, UK national fleet manager for City Link parent Rentokil Initial, explains: "Our 7.5 tonne fleet comprises a mix of marques and we felt there was an opportunity to further enhance our productivity by standardising on a vehicle best suited to the role.

"We chose the Eurocargo for its healthy payload capacity and reputation for reliability. A number of the other models we looked at were uncompetitive on payload or not robust enough for multi-drop work in congested city centres," he adds.

Johnson also indicates that the Eurocargo's automated

EuroTronic transmission, standard on all 4x2s, was another factor – not just for comfortable urban driving, but also in terms of preventing over-revving and so prolonging engine life.

The Eurocargo's 52 degree steering angle also ensures manoeuvrability, while its 2.2m wide cab and unobtrusive centre console and engine tunnel enable drivers to move about without climbing over obstacles.

City Link's 200-strong 7.5 tonne fleet of box body and curtainside vehicles is operated by a network of owner-drivers and contractors.

Among the first to operate a new Eurocargo in City Link colours is Southampton-based Abacus Logistics, which has taken delivery of three 75E16s from dealer Hendy Van & Truck.

Its new fleet comprises one box bodied rigid and two curtainsiders, each powered by the 3.92 litre Tector EEV (enhanced environmentally friendly) engine, capable of 160hp at 2,700 rev/min and up to 530Nm of torque between 1,200 and 2,100 rev/min.

Pre-production engines are Euro 6-ready, claims Scania

Scania is currently test running new Euro-6-ready five- and six-cylinder inline and V8 engines (heavily modified, but derived from its current Euro 5 units) in Sweden for its recently launched R Series trucks.

And that's not just in R&D on its engine test bays and endurance rigs. Pre-production Euro 6 engines are also being used to power some of the company's own 'Transport Laboratory' mixed marque haulage fleet, which tests developments while trunking assemblies from its Södertälje factory in Sweden to the Zwolle production plant in the Netherlands – with tractor units racking up 340,000km per year.

Jonas Hofstedt, senior vice president of powertrain development at Scania, makes it clear that there are several major enhancements. Unlike the current Euro 5 V8, for example, which uses only SCR (selective catalytic reduction) after-treatment to control NOx, the new unit harnesses SCR (with exhaust temperature monitoring to keep it working), EGR (exhaust gas recirculation) and a closed diesel particulate filter to meet the Euro 6 PN (particulate number) requirements, due to be imposed in 2013.

It also features a variable geometry turbocharger and XPI high pressure, digitally controlled common rail fuel injection system, developed with Cummins under the companies' engineering partnership.

So much for the obvious. Beyond that, Scania's Euro 6 V8 also takes advantage of technology developed for the 730hp Euro 5 SCR V8. For example, cylinder combustion pressures have been raised from 165bar on the earlier 15.6-litre V8 to 200bar on the new 16.4-litre power plant – necessitating a change to compacted graphite iron in the cylinder block.

Also, the XPI technology now takes injection pressures up to 2,400bar, and Hofstedt says that Scania has developed multiple recipes for its injection profiles – though, to date, using only pilot and main fuel charges.

Hofstedt worries that the EC's determination to bear down heavily on NOx and particulates in Euro 6 will compromise CO_2 emissions and fuel consumption – not least due to the back pressure imposed by the now essential particulate filter, which reduces fuel efficiency by 3–4%.

He also concedes that the scale of new technology will inevitably add cost for operators. And he rails against the new world harmonised steady state and transient cycle standards, which are considerably at odds with typical Scania heavy duty truck operations, yet force adoption of new technology.

However, he says: "You will be amazed. We are doing everything we can to ensure that transport engineers will not be disappointed by our fuel performance. Including other improvements on the vehicles, consumption will be about the same as for Euro 5, despite the need for a particulate filter."

And that's without most manufacturers' current campaigns to focus on both aerodynamics and driver behaviour – both now proven to make very significant differences to fuel economy.

Interestingly, Scania also intends to continue permitting up to 100% biodiesel on all its engines – including Euro 6. For its existing Euro 5 units with XPI injection, that requires a fuel filter cartridge (due to biodiesel's cold temperature properties) and fuel consumption is slightly up.

Incidentally, Hofstedt confirms that, although Euro 5 certificates still apply, NOx emissions may rise by up to 17%, whereas particulate emissions can decrease by some 45%.

"Euro 6 engines compatible with up to 100% biodiesel will require a separate certificate," advises Hofstedt.