

Cutting *the* cost

Local authorities find themselves under the cosh to deliver savings - both in terms of money and emissions.

Steve Banner examines some options for achieving both on municipal vehicles

With diesel under pressure in the wake of the Volkswagen debacle, local authorities may increasingly feel obliged to consider alternative sources of power, particularly for municipal vehicles.

Fortunately, suppliers, such as RCV (refuse collection vehicle) specialist Dennis Eagle, are responding with a variety of solutions. This company is busy promoting its prototype 18-tonne 4x2 HiUCV (Hybrid integrated Urban Commercial Vehicle), set to go into series production in 2018.

A plug-in hybrid using the same 2.2-litre diesel as a Ford Transit and equipped with four-wheel steering, this RCV can operate in full electric mode on collection duties. What's more, it boasts a capacity of 15m³ and a payload capability from 8.5–9 tonnes (depending on equipment), yet is claimed to deliver a 50%-plus fuel and hence CO₂ saving per tonne of waste

collected, compared with traditional RCV designs. Part of that is down to the HiUCV's monocoque construction, which helps to save weight. "In effect, we've taken a body and fitted wheels to it," comments Dennis Eagle managing director Kevin Else.

METHANE POWER

Meanwhile, several other RCV chassis manufacturers, including Volvo (below left) and Mercedes-Benz, can offer CNG (compressed natural gas) instead of diesel or hybrid technologies. These are bound to appeal to local authorities, which can run the vehicles in return-to-base mode on biomethane generated from landfill sites.

Making the switch to CNG poses challenges, however, according to Dennis Eagle technical director Keith Day. For example, operators may have to install their own refuelling stations as accessible facilities are still thin on the ground. "Also, the weight of the gas cylinders means you lose some payload - something local authorities want to maximise," he observes.

But there are other ways. Operators wanting to stick with conventionally-powered chassis but wishing to enjoy some of the benefits of hybrids can opt for hybrid bodies, suggests specialist Geesinknorba. Its recently launched GPM IV New Vulture RCV body can be specified with a lithium-ion battery to power the compaction and lifting

operation, in place of the truck's diesel engine. The battery can be recharged between rounds by plugging it into the mains, or using a power take-off while the vehicle is being driven.

"On a typical urban round, where the vehicle spends up to 70% of its time lifting, loading and packing, this will not normally be necessary," advises Geesinknorba business director Colm McLister. Electric operation also makes the body quieter, he says, which may mean collections can be made earlier in the morning or later at night.

There is, of course, a price premium. Geesinknorba declines to divulge how big it is, but going hybrid will increase the total bill for a vehicle by 7–10%. That has to be balanced against a claimed fuel saving of 25%, compared with an all-diesel truck. And note, that rises to more like 50% against any of the 10-year-old (or more) RCVs still in service with local authorities, the company observes. Less fuel also means less CO₂ emissions, but also reduced NO_x and particulates, too.

Saving fuel also means saving money. But there are other ways of achieving that objective. Many local councils have been employing swap bodies so that one chassis can fulfil several roles, says Andrew Lupton, sales director at salt spreader and road maintenance body manufacturer Econ.

Lupton concedes that the demount equipment weight reduces payload





Remanufactured RCVs can be up to 40% cheaper than new- and with much shorter lead times

capacity. A demountable gully emptier, for example, may carry 15% less than one permanently fixed to a chassis, he agrees. That said, the capex cost savings are well worthwhile.

It works for Aberdeen City Council, which went for Econ's QCB (quick change body) system to enable some trucks to be used as gritters in the winter but also gully-emptiers, with Whale bodies. "Because these vehicles can be put to use all year round, they represent excellent value for public money," says fleet manager Nigel Buchan.

However, such arrangements may be more difficult if a local authority has awarded, say, highway maintenance to one company, under competitive tendering, and waste management to another. The two contractors may not be willing to work together.

Moving on, councils can cut transport budgets by fitting in-cab systems that influence driver behaviour towards improved fuel efficiency, with less speeding and aggressive acceleration, through visual and verbal prompts. That is a route Gateshead Council has gone down in conjunction with Lightfoot (pictured right). The authority installed Lightfoot's equipment on 16 of its 120

vans, and achieved a 20% fuel saving in the first year - a figure that has now settled down to 5%.

But budgetary constraints mean the authority cannot afford to equip every LCV with Lightfoot, which is typical of the frustration faced by so many municipal fleet managers. Tight limits on capex - Gateshead faces a funding gap of more than £77 million over the next five years - mean they cannot always achieve savings they know are possible.

One way of saving on expenditure may be to buy second hand, a route advocated by Cam, Gloucestershire-based Refuse Vehicle Solutions (RVS). Specialising in remanufacturing RCVs - a process that encompasses everything from replacing switches and hoses to rebuilding the bin lifts - it intends to sell 90-plus used examples this year with a typical age of five years.

"We offer a 40% cost saving compared with a new RCV and we can repaint the vehicles in the customer's colours," states managing director Spencer Law. The trucks have the further advantage of near immediate availability, he adds. "Order a new one and you may have to wait six months before it is delivered."

Long lead times have prompted RVS also to build up its own stock of new, unregistered RCVs for instant delivery under the RediTruck banner. These trucks are built to a standard specification but leave scope for the installation of ancillary equipment depending on preferences and requirements.

Finally, wages represent a major overhead for all authorities, so councillors may be heartened by a project called ROAR (RObot-based Autonomous Refuse handling), being developed by Volvo along with three universities and waste recycler Renova. The aim is to introduce a robot that can quietly collect street refuse bins, bringing them to the RCV and emptying them, supervised by the driver. [TE](#)

