

Chronically strapped for cash in the current economic climate, local authorities are battling hard to cut the cost of fleet operations. Contractors who work for them are also under pressure to do the same. And manufacturers of everything from refuse collection vehicles (RCVs) to road sweepers are responding by making their equipment cheaper to run.

Dennis Eagle, for example, has developed what it refers to as the Fuel Saver Pack. "As well as optimising engine management systems for the sort of stop-start operations that RCVs are engaged in, it includes a dynamic throttle control, so that the driver cannot over-rev," says sales manager Mick Friend. "It also takes some of the load off the engine at idle, again with the aim of cutting fuel usage."

Fitted as OE (original equipment), Dennis Eagle's pack adds £4,000 to the cost of a 6x2 26-tonne RCV, but can result in a significant reduction in

In these cash-strapped times, local authorities and contractors charged with keeping costs down are looking for better vehicle value. Steve Banner and Brian Tinham look at some options



Engineering a

running costs. A recent trial with Salford Council revealed that it can cut CO₂ emissions by 8.0 tonnes per year and reduce fuel consumption by 14%. "In cash terms, this equates to a £3,000 average annual saving, which is at least £21,000 over seven years," Friend says.

Veolia has ordered 41 vehicles with the pack fitted, for use on a contract with Westminster City Council, while Nottingham City Council and Kirklees Borough Council have recently taken delivery of their first trucks equipped with the pack.

Meanwhile, FAUN-Zoeller has come up with Eco Drive Assistant. This limits an RCV's engine revs and ensures that the gearbox always changes up to the highest possible gear, again cutting diesel bills. "It gives you a typical saving of around 8%," claims business development manager Roly Taylor.

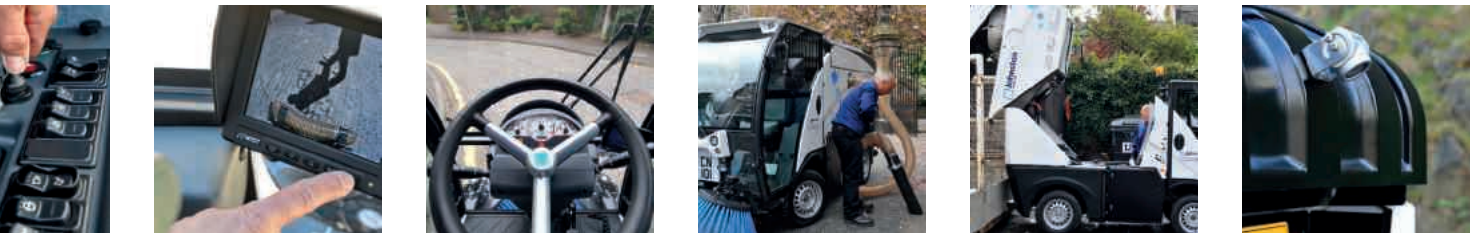
And sweeper manufacturers, such as Johnstone Sweepers, are also doing their bit to shrink fuel bills.

"In recent years, engines have started to offer more power and torque at lower speeds, so we've redesigned our vehicles in line with this," explains engineering director Clive Offley. "As a consequence, our 3.5- to 4.5-tonne gw C201 sweeper can deliver a fuel saving of up to 40%." (See panel above)

Hybrids and flexible bodies

Opting for hybrid technology or other alternative propulsion systems can reduce fuel expenditure, too. But high front-end costs and – in the case of gaseous fuels – the price of installing infrastructure, mean that many local authorities are not in a position to commit, despite their continued desire to seek environmentally-friendly solutions.

Hybrid technology still has a part to play, however, according to Bob Billington, UK business director at Geesinknorba. "We've developed a plug-in hybrid RCV body that's producing fuel savings of over 26%



Clean sweep for Johnston Sweepers

There's more to municipal vehicles than the heavy-duty end, writes *Brian Tingham*. Just a few short months ago, Johnston Sweepers scooped the Mechanical Product of the Year prize in the British Engineering Excellence Awards, for the design of its small C201 3.5- to 4.5-tonne gvw machine.

The judges hailed a host of innovations. First was its novel, patent-pending four-wheel steer system, which revolutionises this sweeper's manoeuvrability for city centre and precinct environments. Second was newer engine technology that offers more power and torque at lower speeds during operation, so slashing fuel consumption and reducing component wear.

Third was its all-new CAN-bus system, which provides for a new level of vehicle, sweeper and lighting control – all via a seven-inch colour monitor – as well as data monitoring for fleet managers and diagnostics for maintenance, using the screen's USB port. Fourth was re-engineering for much quieter operation. And fifth was a better dust capture system, based on new sweeping technology and a suction principle pioneered by the firm 50 years ago that together beat most in its class for PM10s.

Other improvements that led to its award ranged from a new

chassis, suspension and engine mounting concept, all the way to uprated safety systems and comfort for the driver. The new chassis design, in particular, was key to enabling the C201's four-wheel steer to be offered as an option, primarily for export.

This is clever. On the one hand, it means no compromise on cost for the standard front-wheel steer, which delivers an 80° lock, enabling the sweeper to turn on a sixpence. On the other, when four-wheel steer is specified, the machine switches automatically between the two modes, selecting four-wheel at low speeds for ultra-maneuvrability around street furniture, but front-wheel only for more predictable higher-speed handling.

Engineering director Clive Offley says that lower cost of ownership, increased productivity and massively reduced environmental impact, alongside the four-wheel steer, have paid off. One unnamed European customer has already confirmed a 40% fuel reduction during a three-month trial – meaning more than a £1 million saving for its fleet of 40 sweepers. And most recently, Moscow has ordered 225 of the sweepers. These include fitment of a third brush and high-capacity hydraulic pumps for snow brushes at the front and gritters at the rear.



new productivity

Above: Johnston's innovative C201 small, ultra-nippy sweeper. The firm's same innovative engineering spirit has since also been lavished on its latest generation V series truck-mounted larger vehicle sweepers (the V501, 651 and 801, aimed at 9.5–12, 13–18 and 16–18 tonne chassis respectively)

and should give you a payback after about five years," he states. "One user is the London Borough of Lewisham, which has it running all day on an RCV parked in a local market without the truck's engine running. Market traders can throw their rubbish in the back and the compactor operates continually, with no noise or exhaust emissions," he adds.

"Something else we've done, in the wake of a change in ownership of our company a year ago, is cut the capital cost of acquiring vehicles by up to 10%," he continues. "We've achieved that by concentrating all our production at a single plant in the Netherlands, thereby lowering our overheads and achieving better economies of scale."

Making vehicles and bodies as versatile as possible, so that one truck can do the job of two or three, is another tried and tested way for fleets to cut costs. Farid's T1 Series RCV compaction body, for example, is available with an optional touch screen

that lets operators select from four different waste streams: green; cardboard and paper; general household; and glass and plastics. Compaction pressure then changes to maximise the body's volumetric efficiency. Garden rubbish requires a different back pressure ratio to plastic bottles.

In a similar vein, Dennis Eagle offers its Twin Pack. This is a vertically-split, dual-compartment compaction body that can handle two waste streams. It has tailgates and hoppers that operate independently of one another. "It's our biggest-selling vehicle," comments Friend. "Something else we can do on our bodies is fit a separate pod at the front for recyclable kitchen waste."

But financial pressures also mean significant changes of use. Some local authorities are extending the lives of their vehicles from seven or eight to as much as 10 years. However, in other cases, the extent to which municipalities and contractors are



Then again, demountable gritter bodies that allow chassis to be put to another use outside the winter months offer another money-saving opportunity. Or rather they did: the idea is far from new and it works, but they are of less practical use today, according to Andrew Lupton, sales director at gritter manufacturer Econ Engineering. And that's particularly the case where heavier vehicles are concerned, because of the way council contracts are increasingly placed.

"It used to be the case that a 26-tonner would be employed on road surface dressing work for most of the year and then switched to gritting when the

working their assets – including multi-tasking them – is shortening RCV replacement cycles.

Those looking to extend vehicle replacement cycles naturally want products with a reputation for longevity. That's where companies like NTM LinkTip score – in this case, with its Polybody polypropylene waste collection body having a projected lifespan of 14 years. However, at £14,000 for one suitable for a 7.5-tonne chassis, it doesn't come cheap. That said, it offers a 120% improvement in payload capacity against a conventional steel body. Furthermore, NTM



Above: a Farid T1 bodied RCV
Far right: Veolia Dennis Eagle RCVs fitted with its Fuel Saver Pack
Right: 3–3.5t Polybody polypropylene waste collection bodies
Below: a 3.5t Polybody on an Isuzu chassis cab



weather got bad," he recalls. "These days, however, the surface dressing and gritting contracts may in the hands of two different companies." The two companies may have little interest in co-operating with one another, so swapping bodies doesn't happen.

Nevertheless, telematics are still on the menu. Gritting contractors and their local authority clients are interested in minimising salt usage to keep budgets under control. As a consequence, gritters are increasingly programmed to deposit exactly the right amount of salt in the right places over a pre-planned route. "The driver doesn't have to do anything other than drive," Lupton observes. **TE**

LinkTip's UK sales manager Tim Prince makes the point that it does not rust, requires little or no maintenance and is ideal for carrying food waste.

Its ability to transport more weight than a steel-bodied 7.5-tonner also means fewer trips and lower fuel bills, he adds. "Over one year, you can save almost £1,600," he contends.

But there are other ways to cut costs. Fleet operators are becoming increasingly eager to track what their vehicles are up to, both to measure efficiency and to identify money-saving opportunities. And suppliers have responded. Using telematics technology provided by CMS SupaTrak, Geesinknorba's Eurovim Plus monitoring package, for example, collects data on vehicle location, load, speed, fuel usage and cruise control status, which can then be used to help drivers improve their techniques and burn less fuel. It can also be used to trigger an alert, if, for instance, an axle is overloaded.

