

AOne Movers – biodiesel a strategic fit

Soaring fuel prices saw this Auckland freight forwarding company investigate other options – and found that biodiesel was a perfect fit, both with the company’s strategic direction and the owners’ personal ideals.

About AOne Movers

Formed in 2005 by Vanessa and Tony Milham, AOne Movers specialises in moving fragile freight – a 50/50 split of domestic removals and commercial carrying. It has a high-tech focus (all its trucks are GPS-tracked and use leading edge E-Road monitoring systems) but emphasises its personal service. Their fleet of seven large trucks deliver nationwide, but primarily within the North Island.

Fuel prices spark interest in alternatives

“A couple of years ago the price of fuel was going through the roof and was really volatile, so we started looking at alternatives to diesel,” says Tony Milham. As a renewable fuel, biodiesel strongly appealed to Tony and Vanessa’s own eco-friendly ideals. Around this time AOne Movers was approached by Environ Fuels, suggesting they give biodiesel a try.

Implementation

Two trucks were trialled for six months on canola-based biodiesel – one on a biodiesel blend of 20% biodiesel with 80% ordinary diesel (B20), the other on 100% biodiesel (B100). No modifications or set-up changes were required, just a fuel filter change 5,000 km after switching to biodiesel (see ‘Technology overview’ section).

Before starting the trial they checked in with the various manufacturers of their fleet, but found most of them, except Scania, had standard policies discouraging biodiesel use. Undeterred, and encouraged by the extensive consultation they had done with Environ Fuels, AOne began a carefully monitored pilot. Magnets were drawn over the trucks’ sumps to attract any metallic particles that might be suspended in the oil (indicating engine damage) and the oil itself was inspected carefully; fuel lines and seals were also regularly checked. But no problems were encountered with either truck – in fact a longstanding starting problem that one of the trucks had suddenly vanished when the vehicle switched to biodiesel. Fuel consumption proved very similar to ordinary diesel, and drivers reported power and torque just a fraction lower than previously.

During the pilot, the firm’s B100-fuelled truck was in the South Island, during midwinter. It was watched carefully for any issues with the fuel ‘gelling’ at low temperatures, but even after a snowy overnight stop in Dunedin, the vehicle started fine the next morning. (See ‘Technology overview’ section for more information about biodiesel and low temperatures).

After the successful pilot, all AOne’s trucks began running on B20, and a 1,000 litre fuel storage tank was installed on-site, under a lease arrangement with their biodiesel supplier Environ Fuels.

As a renewable fuel, biodiesel strongly appealed to Tony and Vanessa’s own eco-friendly ideals. Around this time AOne Movers was approached by Environ Fuels, suggesting they give biodiesel a try.



✓ Key features

- Seven large trucks running on B20 (soon moving to B100)
- No extra investment required to use biodiesel
- Fuel and maintenance costs remain the same
- Extra fuel filter changes are required initially after switching to biodiesel

✓ Key benefits

- Good engine performance, notably cleaner burning
- On-site refuelling provides big time savings
- Reduced greenhouse gas emissions creates a marketing angle
- Upcoming move to B100 will enable greater stability over fuel costs

✓ Sector relevance

- Transport industry

Technology overview

- Virtually all diesel vehicles can use a 5% biodiesel blend (B5) without any engine or fuel system modifications. Higher blends, such as B20, are able to be used for many large commercial vehicles such as trucks, buses, and vessels, provided a few simple checks and steps are followed. Some engine manufacturers also approve the use of 100% biodiesel. EECA recommends that businesses check with their vehicle or engine manufacturer, and with a specialist with particular expertise in the field, about the level of blend that's suitable for their vehicle or vessel.
- Drivers can switch between using biodiesel blends and ordinary diesel at any time, including having a mix of both fuels in the tank at the same time.
- Biodiesel blends tend to 'clean' fuel systems, loosening dirt and old fuel deposits and carrying them through to the fuel filter. As a result, one or more fuel filter changes are required after switching to biodiesel, to remove the loosened engine grime.
- As with ordinary diesel, biodiesel can 'gel' in very cold areas if the vehicle is left standing for extended periods, e.g. overnight. Locally purchased fuel is formulated to suit the region's colder temperatures, reducing the risk of this problem. Simply driving through cold areas with biodiesel in the tank is not a problem.
- Greenhouse gas reduction of 15-18% (based on the use of B20).

Future strategy

Converting the entire fleet to B100 is the next plan. This is partly for 'eco-friendly' reasons, and also to give them more stability over their fuel costs: a key objective. When using B20, Tony notes, 80% of the blend is ordinary diesel – and therefore subject to the sometimes-dramatic price spikes that occur in world oil markets, whereas B100, being petroleum-free, is unaffected by oil market volatility. Fuelling solely on B100 is also expected to cut the fleet's oil usage considerably, he says, due to the fuel's higher lubricity.

They have already observed that the biodiesel burns much more cleanly, and the fuel filters are staying cleaner much longer, to the point that Tony is contemplating filter changes at every 20,000km rather than at the current 10,000km intervals.

Using biodiesel has fitted well into AOne's business ethos. A move to bigger premises will soon see them also generating electricity from rooftop solar cells on their building, and putting energy back into the national grid. With this initiative, and the move to run the fleet entirely on B100, they expect to be close to being carbon neutral – and possibly even carbon negative – in the not too distant future. This is welcome news to their client base, some of whom, like supermarket chain Progressive Enterprises, are becoming increasingly aware of their carbon footprint.

AOne Movers will soon be joining Enviro-Mark® NZ, a certification programme to help firms develop and implement their own environmental management system.

Key personnel

Tony Milham (Sales Manager, AOne Movers Ltd) tony@aonemovers.co.nz or **0274 550 899**.



AOne Movers' perspective

Tony Milham, Sales Manager

"Kiwis often seem hesitant about adopting new technology. They like to take a 'wait and see' approach, then if it works out okay they'll eventually go with the crowd. We've tried to encourage others to make the change, but all too often they make excuses.

"It's about managing risk. Vanessa and I both come from technical backgrounds – we look beyond some of the issues that come with new technology, and see where it's going long-term.

"So far our experience with biodiesel's availability, quality and service has been very good.

"This journey, for us, is about doing the right thing for New Zealand as well as running a successful business. We wish to prove that you can do both!"

MARCH 2010/EEC1347



For more information contact The Energy Efficiency and Conservation Authority:

EECA HEAD OFFICE: PO Box 388, Wellington, (04) 470 2200

EECA AUCKLAND: PO Box 37444, Parnell, Auckland, (09) 377 5328

EECA CHRISTCHURCH: PO Box 13983, Christchurch, (03) 353 9280

Freephone 0800 358 676 | www.eeca.govt.nz/biofuels