

SECTION 5
WATER
MATTERS

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Longacres gas conversion

By Stuart Bray¹

The irrigation farm 'Longacres' on the banks of the Mooki, near Gunnedah, is in the process of converting their engines from diesel to diesel-gas. Its under trial now on one of their pumping engines. The manager, Tim Leo, said if it works out he will incorporate gas substitution to another five pumps.

Elgas supplies the gas to the farm, and then it is mixed with the diesel on site into the six cylinder turbo charged Perkins Phaser diesel. Although the price of diesel has dropped dramatically in the past six months, farmers are sceptical that it will stay at these levels for long. People like Tim Leo believe to make profits in today's climate they need to look at ways of reducing costs.

Diesel substitution is one way of doing this. By mixing small amounts of liquid petroleum gas with the diesel, the motor runs more efficiently. DieselGas Technologies, who do the conversions, suggest that the burn rate goes from 75 per cent to 98 per cent, while the motor runs better and needs less diesel to maintain its load. The reduction in diesel costs is around 30 per cent. This is acceptable now, but even more enticing when diesel revisits the 170 cents a litre level.

Tim Leo regards his ground water as a precious resource, and because it's the most expensive water to use, is always pumped last and sparingly with the most efficient use of energy to get it above ground. This is the reason for the interest in diesel substitution and/or any other system that will reduce pumping costs.

There are always expenses to improve a situation, and the conversion that needs to be done to the motor at current costs is approximately \$9000 depending on the degree of difficulty with the conversion. The savings can be paid back in one season on a 300 HP motor according to Matt Derrig, director of DieselGas Technologies.

DieselGas Technologies have completed 40 gas conversions in northwest NSW during the last two years. This was during the peak of the fuel crisis. But farmers and businesses are still concerned that once the economic crisis is over, fuel prices will soar again. At conversion, the motor is given a full assessment to check that it is running at the correct speed. Several cases have occurred where the motor was over worked and adjusted to optimise its performance. In some cases this has increased fuel efficiency by up to 50 per cent.

High fuel prices are not the only reason companies are converting to diesel-gas. Large corporations are looking at the conversion as a way of minimising their carbon footprint. Nitrous oxide or NOx is a targeted emission and it can be reduced by up to 20 per cent through this process.

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Matt Derrig, Director DieselGas Technologies, conducting a gas conversion at 'Longacres' Gunnedah.