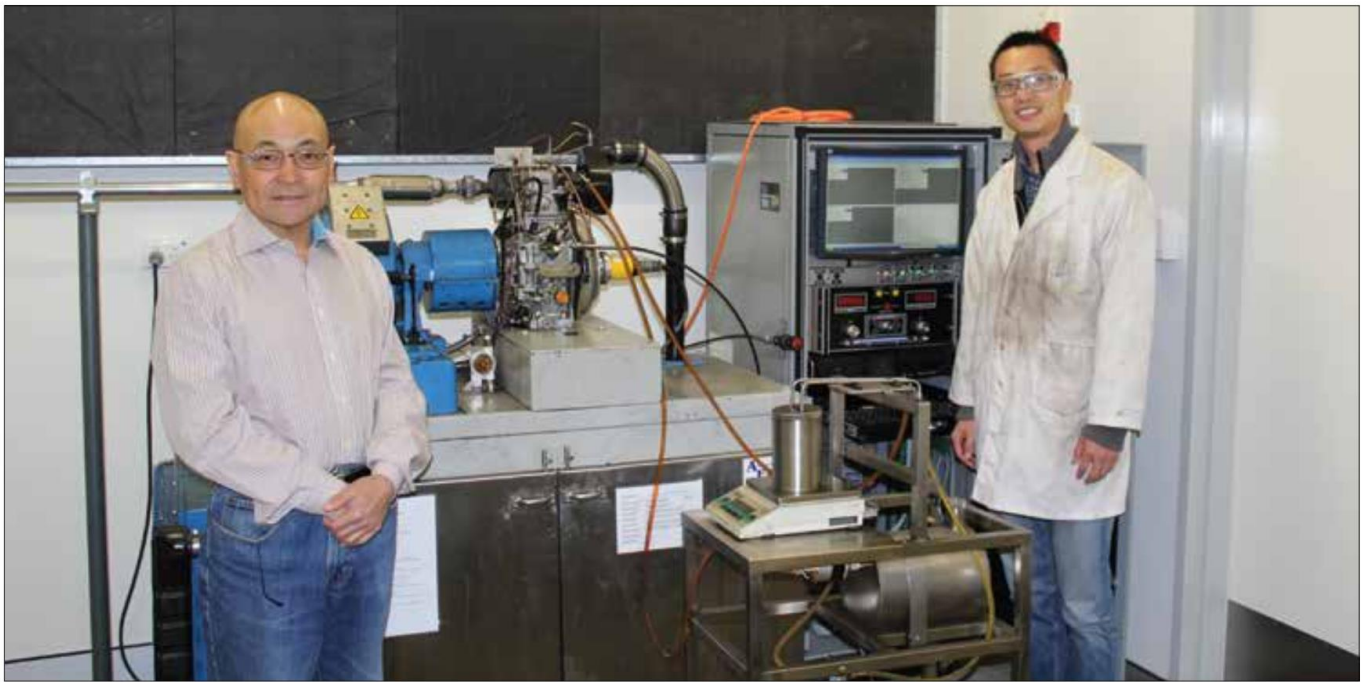


Improving fuel efficiency, reducing emissions



Professor Dongke Zhang and Research Fellow Dr Mingming Zhu at the UWA Centre for Energy.

THE University of Western Australia Centre for Energy director Professor Dongke Zhang is a leading energy expert and passionate about improving efficiencies and lessening environmental impact for large Australian industries.

Professor Zhang stated that research proving a combustion catalyst named FPC – manufactured by Australian company Fuel Technology – had produced impressive results.

When added to diesel fuel, FPC enhances the combustion phase by promoting a faster and more complete burn in compression ignition (diesel) engines, resulting in greater fuel efficiencies and reduced emissions.

Professor Zhang and his team were engaged by a major mining company to systematically study the effects of FPC.

An initial desktop study showed promising results, leading to a four-year research program predominantly funded by

the Australian Research Council.

Professor Zhang stated that FPC is a rather unique product, acting on the combustion process itself, unlike many products which are simply detergents or oxygenated hydrocarbons.

The research determined that the addition of FPC to diesel fuel at the recommended ratio did not alter fuel specifications, therefore negating any OEM warranty concerns.

Controlled laboratory and dynamometer testing then provided scientific evidence of reduced fuel consumption of up to 4.2 per cent, reduced greenhouse gas emissions of up to 22 per cent and smoke reductions of up to 39 per cent.

Professor Zhang stated that as these tests were conducted on as-new engines, greater efficiencies can be seen with real engines in the field.

“For large diesel users, these reductions

can mean significant savings,” Professor Zhang said.

With further studies conducted on diesel soot, results showed significant reductions in soot particle numbers and size due to FPC providing a more complete combustion.

“Reduced soot in engine oil promotes longer engine life between rebuilds,” he said.

“The financial benefits in reduced maintenance could equal or even exceed the financial benefits in fuel savings.

“However, most importantly, a price cannot be placed on providing cleaner air for site personnel.

“Companies should be much more open towards using proven Australian products such as FPC.

“The Australian Government should also be looking at providing greater support for the use of fuel and emission reducing products.”

When low-quality fuel is not an option

FUEL Technology has been working within the mining and transport industries for more than 30 years.

Following a sole Australian distribution agreement with world leading filtration manufacturer DieselPure, Fuel Technology is set to drive fuel cleanliness to new heights.

“Poor fuel quality or contaminated fuel is a major cause of engine failures while also increasing fuel consumption and emissions,” Fuel Technology stated.

“At Fuel Technology we are focused on helping industries achieve the best possible fuel efficiency therefore reducing operating costs and lowering emissions.”

DieselPure filters were specifically designed to address the changes in today’s ultra-low sulphur diesel (ULSD) and ULSD/Biodiesel blends, where a new hidden problem within storage and fuel systems has been identified; emulsified water.

Tested to industry standard SAE J1488 2010, DieselPure filters have been proven to remove not only contaminants down to 0.2 of a micron and free water, but also 100 per cent of harmful emulsified water from ULSD and 96 per cent from Bio-Diesel blends.

No other bulk diesel filter has been proven to achieve this.

“With modern engine fuel systems operating at high pressures and fine tolerances, diesel that is clean and moisture free is no longer an option, but a necessity,” the company stated.

“DieselPure filters have a two-stage design, firstly allowing fuel to flow through internal core media to filter out large contaminants (dirt, microbial growth, etc.).

“Fuel is then passed through the specially engineered layers of pleated media to remove



More information can be found at www.fueltechnology.com.au.

emulsified water and fine particulates.”

Fuel Technology supply a range of DieselPure fixed systems to suit any bulk diesel application, while also providing

a mobile tank cleaning service to ensure storage tanks are clean and moisture-free.

Storage tank maintenance is critical to ensuring clean fuel.

Fuel Technology and DieselPure have set a new standard in diesel filtration and are recommended for all diesel storage tanks where fuel quality is paramount.