

### Carbon-friendly log truck on show in Sydney

A modified log truck that could save five tonnes of carbon dioxide per year will be on display at the Sydney Truck Show at Sydney Olympic Park from today.

The prototype diesel shunt truck has been fitted with a supplementary electric motor at the front axle, which will power the vehicle at times of extra load – such as at start-up or going up hills – improving vehicle efficiency, reducing greenhouse gas emissions and prolonging the life of the conventional diesel motor.

The truck has been purchased by the CRC for Forestry and modified by inventor Cliff Hall.

“This innovation represents an opportunity to make immediate and significant efficiency gains and to reduce environmental impacts,” says CRC for Forestry CEO Professor Gordon Duff.

“Like most good ideas, it’s quite simple. I’m sure it will leave people thinking – ‘why didn’t I think of that?’ - which is the hallmark of a great innovation.”

“Adoption of this innovation will help put the forest industry on the front foot in terms of reduction in greenhouse gas emissions in forest operations.”

The CRC for Forestry, Mr Hall and Timbercorp harvesting staff have been working together during 2008 to purchase and modify the test vehicle.

Once the prototype has been proven under field conditions, Timbercorp plans to purchase the truck from the CRC and apply the technology in its shunt truck fleet for use in harvesting operations around Albany, Western Australia and the Green Triangle.

Mr Hall will work with the CRC for Forestry’s Harvesting and Operations Programme Manager and forestry transport logistics expert Mark Brown to test the truck under field conditions.

Mr Hall expects tests on the prototype to show cost and greenhouse gas emission reductions of 10–25 per cent.

A conservative reduction in fuel use of 10 per cent due to the hybrid technology would equate to four to five tonnes per year of carbon dioxide saved.

Mr Hall says that while the technology itself isn’t new, application in this way is novel.

“Hybrid cars have been around for a short while, but no-one thought to apply this to heavy vehicles until now,” he says.

Shunt trucks are diesel-powered prime mover trucks that are modified by the forest industry to move chip trailers from the bush to the road in some forest operations, where the trailers are then connected to road trucks for longer-distance hauls.

Demand for shunt trucks will rise over the next few years as more plantations come online for harvesting. Before they can be used by the forest industry they are first modified from four-wheel drive to six-wheel drive, which is when the electric motor can be added.

The mining industry also has a high demand for the particular base truck that has traditionally been converted for use as a shunt truck. This competition drives up the price per vehicle and significantly reduces their availability. The conversion option being tested will increase the range of potential base trucks that can be adapted for use as a shunt truck.

Mr Hall says that once the prototype has been finalised and tested, retrofitting fleets of shunt trucks with electric motors should be possible at no additional net cost.

He says that the process of moving chip trailers under considerable load to the assembly point and returning to the forest unladen is an ideal cycle to enable the use of electric power under load and the use of diesel power unladen. During the second part of the cycle, when diesel power takes over, the power source for the electric motor is recharged.

Cliff Hall and CRC for Forestry Communications Manager Taylor Bildstein will be at the Sydney truck show (stand 320), 7–9 August, to demonstrate how this has been done. The example itself will be on display, painted in Timbercorp colours and with the CRC logo on the doors.

The CRC is also investigating the application of this technology for skidders and forwarders.

## **More information**

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<http://www.crcforestry.com.au/research/programme-three/index.html>

Innovative Transport Solutions Pty Ltd

<http://www.itselectric.com>

Sydney Truck Show  
Thursday 7 – Saturday 9 August 2008  
Stand 320  
The ‘Dome’ and Halls 2 & 3,  
Homebush Exhibition Centre,  
Sydney Olympic Park