

Clean inroads in keen India

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A PERTH clean-energy company has helped develop an engine that runs on natural gas and hydrogen.

Eden Energy, which tried unsuccessfully to have its technology installed in Transperth buses, is now making inroads in the massive Indian market.

With Eden Energy's expertise, the giant Indian transport company Ashok Leyland has developed a six-cylinder, six-litre engine operated by Hythane, a fuel that combines natural gas and hydrogen.

India and China are the markets driving the Hythane industry. Ashok Leyland claims to move more than 60 million passengers a day on its buses, more than the entire Indian rail network.

In Australia, natural gas-driven vehicles are virtually limited to the 20,000 government buses, where fleets were turned over every 10-15 years. Ashok Leyland sells 100,000 buses a year.

"That's just one company and that's every year," Eden Energy's Greg Solomon said.

"Take Transperth for argument's sake. I had meetings with them a couple of years ago when they were doing their hydrogen bus trials.

"I told them that they could achieve a far greater benefit with the same amount of hydrogen if they used Hythane.

"I said 'you've got natural gas; the hydrogen is easily added. We had discussions, but they weren't particularly interested. Further, it was only a very limited market as the number of buses they were replacing that particular year was only 67."

India's interest in Hythane technology is driven by a concern for air pollution and environmental problems.

Mr Solomon said petrol still ruled in Australia and the US because economics was the main driver.



IT'S A GAS: A Perth company says it has found a way to develop cleaner public transport.

"They (India) are just starting the rapid expansion and roll-out of infrastructure for motor vehicles," Mr Solomon said. "They are moving straight to gas and are very conscious of air pollution."

Speaking about the latest development with Ashok Leyland, announced to the Australian Securities Exchange on Friday, Mr Solomon said it was a significant step.

"It's a big project," he said.

"The concept of what we're doing is really promoting the use of hydrogen-enriched natural gas as a premium blend of natural gas.

"It's a step on the way to a full hydrogen economy.

"The Indian Government has embraced that. They have a national hydrogen road map, which contemplates this and promotes the use of Hythane. They plan to have 20 per cent of all vehicles running on a hydrogen-based fuel by 2020."

Ashok Leyland pioneered the use of compressed natural gas fuel for mass transportation in the country by rolling out India's first CNG bus in Mumbai in 1997.

Mr Solomon said the technology was fully proven over a 20-year period.

"Hythane can pay for itself with efficiency gains with a properly tuned, lean-burn engine or a stoichiometric engine with exhaust gas recirculation," he said.

"You can produce the hydrogen from the natural gas.

"You can reduce your emissions, particularly of NO_x (a type of nitrogen oxide), which causes serious lung and respiratory problems, by up to 50 per cent and also increase your efficiency. There is no reduction in power — nothing gets worse. It's a premium blend of natural gas.

"All we're doing is taking a small amount of hydrogen and adding it in. The hydrogen acts as a very strong combustion stimulant. You get a great benefit with a small amount of hydrogen. Hythane engines are arguably the world's cleanest and most efficient internal-combustion engines."