

PUBLIC TRANSPORT

Carbon Advantage

Joburg trial highlights carbon advantages of ethanol-fuelled bus

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The first local ethanol-driven bus, which forms part of the City of Johannesburg's initiative to reduce air pollution in the city, was tested during October.

The bus consumes 80 l/100 km and produces only 125 g of carbon dioxide (CO₂) for every kilometre.

An equivalent diesel bus will use about 48 l/100 km, but will produce about 1 285 g of CO₂ for every kilometre.

Manufacturer of trucks, buses and engines Scania and Johannesburg's Metrobus company have been working closely to implement a reduction in carbon emissions in the city and invited fleet management company Mix Telematics, earlier this year, to become involved in the ethanol-driven bus trial. Mix Telematics' technology monitors and adjusts driver behaviour and initiates effective routing to reduce fuel consumption and CO₂ emissions.

The company's FM Communicator unit is used globally and can monitor fuel consumption to calculate CO₂ emissions. Mix Telematics original-equipment manufacturer key account manager **John Anderson** says that the system clearly shows when a vehicle is being driven over the speed limit, monitors driver behaviour, records the hours drivers spend behind the wheel and advises when maintenance work is needed.

"Companies that adopt this fleet management technology are able to accurately measure and report on their CO₂ emissions. By reducing fuel consumption, CO₂ emissions

STORY HIGHLIGHTS

>> The fleet management technology monitors and adjusts driver behaviour to reduce fuel consumption and CO₂ emissions.

>> While it is more expensive to replace diesel with ethanol, businesses will pay less environmental tax in the long run.

are reduced, thereby optimising efficiency for companies like Metrobus," he says.

It can also be used to assess and plan routes to ensure optimum fuel efficiencies and can advise bus owners which buses are best for specific routes, such as single, double or flexible dual-carriage buses.

"The system links directly to the on-board computer, which allows us to monitor and report on all aspects of the vehicle. We also work closely with the fleet owners [regarding driver training] to ensure vehicles are used efficiently. This significantly impacts on the fuel efficiency and the CO₂ output of vehicles," Anderson notes.

The Carbon Disclosure Project (CDP), an initiative aimed at gathering information on what companies are doing globally to combat climate change, is driving global business to take voluntary action. Analysts predict that, in future, businesses will be legally obliged to comply with CDP scorecard ratings by monitoring and publicly reporting on their CO₂ emissions.

Anderson believes that businesses are thinking ahead and working on reducing their envi-



ETHANOL EFFICIENCY

The bus consumes 80 l/100 km

ronmental impact before it becomes mandatory. "Companies that adopt ecofriendly policies now will gain the competitive advantage in the future, and will have built up goodwill in the market once government and industry regulations are officially put in place," he asserts.

The challenge that many businesses face is how this fuel adjustment will affect their bottom line. Anderson says that, while it is slightly more expensive to replace diesel with ethanol, the savings will become evident in the long run, as businesses will pay less environmental tax.

Meanwhile, the production of ethanol is also creating job opportunities globally. Anderson points out that, for every bus that runs on ethanol fuel, two to three jobs are created in rural areas. Ethanol, therefore, not only holds the advantage of lowering CO₂ emissions, but can also boost employment.

Silversands Ethanol produces ethanol fuel from sugar beet at a plant in Lichtenburg, in the North West province. Anderson asserts that the partnership between Scania, Silversands Ethanol, Metrobus and Mix Telematics has resulted in the first feasible biofuels project in South Africa.

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