

Bio-teamwork

Reducing carbon emissions is the new buzz phrase in the transport industry. It is, however, not just up to the vehicle manufacturer. Fleet management systems and operators are also coming to the party.

THE Carbon Disclosure Project is the first sign that global business is taking action. Analysts predict that in future, businesses will be legally obliged to comply with CDP scorecard ratings by monitoring, and publicly reporting on their greenhouse gas emissions. Companies that report high CDP ratings will most likely procure more business and maintain consumer loyalty than those who do not.

"Businesses are thinking ahead and looking to reduce their environmental impact before it becomes mandatory to do so. Companies who adopt eco-friendly policies will now gain a competitive advantage in the future and will have built up goodwill in the market once government and industry regulations are officially put in place," says John Anderson, OEM key account manager at MiX Telematics.

This thinking has led to the first-ethanol powered bus being tested in South Africa. The bus is manufactured by Scania, operated by Metrobus, and MiX Telematics has stepped up to provide the correct technology to reduce the carbon emissions of the bus further.

"The use of ethanol has many benefits, the greatest of these being the reduction in carbon emissions. Ethanol is produced from sugar beet and the production of ethanol is creating job opportunities around the world. According to research conducted in South Africa, for every bus that runs on ethanol, two to three jobs are created in rural areas where it is most needed. So

not only will fewer carbon emissions be discharged into the atmosphere, but many unemployed South Africans may find themselves with a job. It makes sense to go this route," says Anderson.

The bottom line

The thought that plagues most business owners is how this fuel adjustment will affect the bottom line. Anderson says that while it works out to be slightly more



A Monash study on fleet management and safety in Europe provides insight into how different countries approach this issue:

- In Sweden, the approach with regard to fleet safety has been that of "quality management of the transport component of the enterprise (whether government or private)". Quality assurance of transport aims to ensure that people and goods arrive at the right place, at the right time and in the right way (i.e. without danger of serious injury or damage to the goods or the environment in connection with the transport). Consequently, there is a linking of road safety and environmental outcomes.
- In France, there is a programme to increase the involvement of private companies in road safety related to their use of vehicles. Agreements have been drawn up between government, insurance companies, the national occupational health fund and volunteer companies. The programme focuses on motivating companies to undertake road safety by increasing the knowledge of the cost of road crashes to the company and by decreasing worker compensation and vehicle insurance premiums if implemented. Other programmes have concentrated on drunk driving because of its large role in both work- and non-work-related road crashes in France.
- In Germany, the Traffic Safety Council has promoted the establishment of voluntary safety circles in which employees from the company vehicle fleet meet to discuss critical points and devise solutions under the leadership of an experienced moderator. It also runs a one-day training course on 'Safe, Economical and Environmentally Friendly Driving'.
- In the United Kingdom, various measures have been implemented to improve road safety within organisations. They include driver training programmes, incentive schemes, penalties, accident reviews, driver monitoring systems and driver feedback procedures. It is unclear whether these measures have had an effect.

expensive using ethanol rather than diesel, for example, the savings will come in the long run as businesses will pay less environmental tax. The ethanol consumption in an engine is higher than diesel.

As the need has arisen for transport companies to reduce carbon emissions, the company has been developing and implementing fleet management technology designed specifically for this purpose. "Companies who adopt this technology are able to measure and report on their carbon emissions accurately. By reducing fuel consumption, carbon emissions are reduced and our technology can, without a doubt, make this a reality for companies such as Metrobus," he says.

MIX Telematics' FM Communicator Unit, placed in the first ethanol-powered bus in South Africa, is used worldwide and can monitor fuel consumption to calculate CO₂ emissions to adhere to the strict standards set by the rest of the world. "Our systems measures fuel consumption

and CO₂ emissions and clearly indicates if the vehicle is over the limits," adds Anderson. In addition, the system also monitors driver behaviour and records drivers

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hours, advises when maintenance is necessary, can be used to assess and plan routes to ensure optimum fuel efficiencies and can advise bus owners on what buses are best for which routes.

"Unlike other systems, our system links directly to the on-board computer via the CANbus, which allows us to monitor and report on all aspects of the vehicle.

"We also work closely with the fleet owners on training their drivers to ensure vehicles are used efficiently. It has

been interesting to see just how this alone has impacted the fuel efficiency and in turn the carbon output of vehicles," comments Anderson. MIX Telematics was approached by Scania, its long-standing partner, earlier this year to become involved in the ethanol-powered bus trial. The latter has been

working closely with Metrobus to implement a reduction in carbon emissions. The main concern for the bus operator in this ethanol-powered trial was to reduce fuel consumption and the technology was provided to make this a reality. The approach was to monitor and adjust driver behaviour and initiate effective routing to attain real fuel reductions.

The results

During the period from mid-September to date, the following results were concluded:

- The ethanol bus consumed 80 £/100 km and produced only 125 g of CO₂/km.
- An equivalent diesel bus will use about 48 £ of diesel per 100 km but will produce approximately 1 285 g of CO₂/km.

"The relationship between Scania, Silversands Ethanol and Metro is not only creating the first ethanol-powered bus project but the biofuels industry is seeing its first feasible project in the history of South Africa.

With MIX Telematics monitoring the system, the successes of this project can be traced and analysed in ways not done before. This project, although starting with buses, has far reaching implications for the biofuels market in South Africa and Africa," concludes Anderson. 35



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