

Alternative Fuels

Ventura owns three Scania L94UB ethanol buses, launched in 2000 and 2001. Ventura was the first Australian public transport operator to introduce ethanol as an alternative fuel, with plans to extend our fleet of alternative fuel vehicles in years to come. With Ventura having always been a pioneer of alternative fuels such as LPG and charcoal, the attractions of Ventura to ethanol include:



- Environmental concerns including:
 - o CO2 Emissions
 - o Depletion of fossil fuels and non-renewable energy sources
- Supporting rural employment through the sugar cane industry
- Reducing Australia's reliance on imported fossil fuels

Whilst the buses themselves have attracted considerable publicity and outstanding feedback from passengers and environmental organisations, plans to further integrate Ventura's fleet with ethanol will be reliant on the Federal Government's continued support.

As part of Ventura's efforts to promote the benefits of ethanol to the community, Ventura has been involved in:

Sustainable Living Festival: a celebration and showcase of leading examples of sustainable living in Australia. Ventura participated from 2003 to 2005 where sponsorship was provided, and the ethanol buses prominently displayed.

Greenhouse Challenge: Ventura Bus Lines were the winners of the Bronze Award at the Australian Greenhouse Office "Greenhouse Challenge Aware 2001". The Greenhouse challenge is part of the Australian Government's comprehensive Climate Change Strategy, designed to:

- o Reduce greenhouse gas emissions
- o Accelerate the uptake of energy efficiency
- o Integrate greenhouse issues into business decision-making; and
- o Provide more consistent reporting of greenhouse gas emissions

Ceres Sponsorship: Ceres is a 4 hectare part dedicated to community and environmental initiatives and is recognized as one of the most visited environmental education centres in Australia. A Ceres Sponsorship from Ventura commenced in 2001 and concluded in 2002.

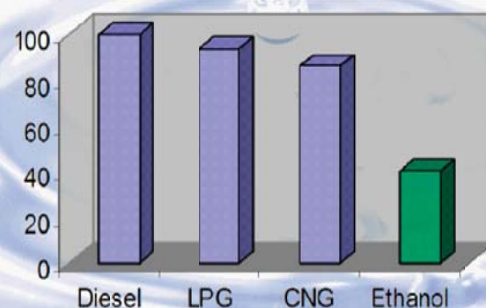
Visits to Schools: With an aim to educating Australia's youth and appealing to their environmental conscience, Ventura has made several presentations regarding ethanol to universities, secondary and primary schools. Part of these presentations included a three minute video from VEA titled 'Renewable Energy'.

What is Ethanol?

Ethanol, also known as grain alcohol or ethyl alcohol is a flammable, tasteless and colourless chemical compound, and is one of the alcohols most commonly encountered today as alcoholic beverages. In common usage, ethanol may simply be referred to as alcohol. It's molecular formula is C_2H_6O .

Ethanol, used for various other applications including pharmaceuticals, cosmetics and solvents, can be produced chemically from ethylene or biologically from the fermentation of various sugars from carbohydrates found in agricultural crops and cellulosic residues from crops or wood.

Comparison of CO2 Emissions From Fuels





Operation and Maintenance of Ethanol Buses

Driving ethanol buses requires extra training, and drivers have been impressed with the smooth running of the vehicles. Despite a lower fuel efficiency for ethanol, the distance travelled by an ethanol bus is equal to that of diesel counterparts, due to an enlarged fuel tank. Because ethanol evaporates less readily than gasoline, starting the engine in a cold environment has historically been an issue for ethanol vehicles. However, this issue has been managed through engine design and fuel additives that enhance ignition.

Repairs and maintenance on ethanol buses has also been higher, likely due to Ventura's unfamiliarity with ethanol

fuel- thus, we expect that repairs and maintenance on ethanol vehicles will reduce in future, to become more comparable with diesel.

Additional infrastructure needed to be added to Ventura's Oakleigh depot in order to facilitate ethanol vehicles. This infrastructure included an Ethanol Storage System and fuel bowsers. The fibreglass Ethanol Storage System was installed for Ventura by "Environmental Petroleum Systems" and was considered to be a revolutionary system for the safe storage of ethanol. This currently installed infrastructure is sufficient for existing ethanol fleet, and can manage a potential total fleet of 20 ethanol buses.

Ethanol is delivered by CSR to Ventura in a similar manner to that of diesel fuel. However, a permit to take delivery of spirits for approved purposes needed to be obtained from the ATO before delivery commenced.

Changes to Alternative Fuels Legislation

Currently, ethanol receives a fuel grant under the Energy Grants (Credits) Scheme equal to 20 cents per litre. This grant will be reducing to zero by 1 July 2010.

From the producer's perspective, the excise duty that is currently paid on fuel ethanol (\$0.38143 per litre) is totally offset by a production grant. It is likely that this will be so until 2011 when the grant will reduce to zero over five years.

From July 2011 a fuel tax will apply to alternative fuels, increasing to 25 cents in five equal steps to July 2015. However, ethanol will receive a 50% discount from this fuel tax, resulting in an effective tax cost of \$0.125 per litre from July 2015.



What future is in Store for Ethanol?

With gasoline reserves destined to expire sooner rather than later, and environmental awareness becoming a driving political and social force, the most important determinant of ethanol's success as a mainstream fuel source will be what path governments choose to take in solving the fuel problem.

Whilst other alternative fuel forms are on the scene, ethanol is recognized as the alternative fuel with the most immediate potential to make a difference.

In the EU, Directive 2003/10/EC requires each country to ensure that biofuels will have replaced 5.75% of diesel and petrol by December 2010.

Latin America, dominated by Brazil is the world's largest production region of bioethanol. Countries such as Brazil and Argentina already produce large amounts and have a thriving ethanol transport industry, with other countries including Bolivia, Cost Rica and Paraguay seriously considering the bioethanol option.

Whilst the most rapid use of ethanol worldwide is dieselhol or E10 mixtures, where ethanol is used as an additive to fossil fuels, real environmental gains are only prevalent in ethanol-based fuels.