

TotalFinaElf UK Limited
Initial views on Energy Policy towards 2050 - Transport Emissions

TotalFinaElf UK supports the United Kingdom Petroleum Industry Association (UKPIA) response to the Energy Policy Review, but would comment additionally primarily on the transport sector.

TFE owns and operates two refineries in the UK producing primarily liquid fuels for heating and transport. The company has been heavily involved in the evolution of transport fuels and was the first in the UK to offer widespread availability of Ultra Low Sulphur Diesel in support of this Government's initiative on air quality. TFE will continue in this, by again being amongst the first to offer the same widespread availability of Ultra Low Sulphur Petrol, and intends to remain in the forefront in any future advances.

We are aware of Governments concerns surrounding energy supply & usage, our upstream arm is also responding with comments on supply and its security. On this basis we shall concentrate our comments on product usage, its environmental effects, and the measures we see, both already planned, and potential to combat those effects.

Transport currently accounts for 22% of UK CO₂ emissions, and hence any reductions here will clearly impact overall GHG reductions.

The effect of transport could be seen as the result of two conflicting factors;-

Increased transport growth vs Improving vehicle & fuel technologies.

National Road Traffic Forecasts (NRTF 1997) predict a 57% rise in road traffic between 1997, and 2031, control here may be required as mentioned in bullet 4 below. Air traffic will double between 1990 and 2010, this however is an international phenomena, and maybe outside of this discussion.

Points perhaps worth considering

- Fuel qualities continue to improve with 10ppm sulphur road fuels taken as a given to be introduced throughout the UK by 2003? . Sulphur free fuels initially will increase the CO₂ from refineries in the UK; the full environmental advantage of these fuels will not be seen until around 2012. (This requires both new 'lean burn' engine technology to be introduced and for the car park to be fully turned over with vehicles utilising this technology). CO₂ levels from the combination of clean fuels and engine technology will bring about transport emission reductions of around 25% (CO₂) as part of the ACEA voluntary agreement on CO₂, not forgetting of course reductions of NOX, PM & VOC. The reduction in these other pollutants will already be in the order of 90% (1990-2010) or 40% (2000-2010). The timescales for all of these reductions will be governed primarily by turnover of existing vehicle fleets. TFE believes it is important that any review accounts for these already planned and agreed initiatives.
- Road transport CO₂ emissions could be further reduced (50% of conventional gasoline) using future vehicle technologies, e.g. Fuel cells or the already available hybrid vehicles. **For example low sulphur gasoline powered Fuel celled vehicles will offer this 50% reduction in CO₂ emissions on a well to wheel basis** (source API). This is with the additional advantage of utilising an already existing distribution network. Using compressed hydrogen is deemed both heavy for passenger vehicles as well non practical/unsafe. This was also identified by CARB studies in the US. We believe that the liquid fuel option will be more workable, particularly considering longer term demands on hydrogen availability.
- TFE believes, like UKPIA, that the evolution towards these technologies should not be hindered by early pre-judgements of the eventual outcome, that in this way other more promising technologies or derivatives may evolve.

- Future policy on vehicle/fuel types is yet to be decided but the above is already close to meeting the 60% Government objective in terms of transport emissions per vehicle, this however may be offset by uncontrolled transport growth. Government will need to consider this.
- TotalFinaElf is committed to research in future fuels and technologies, and is currently actively involved in fuel cell development along with other initiatives.
- Additionally TFE currently produces renewable bio-fuel, components for both diesel and petrol in the form of RME (Rapeseed Methyl Ester), and ETBE (Ethyl Tertiary Butyl Ether, from bio ethanol), where the company has been a world leader in such development.

The chart below (combined from API and motor manufacturers published data) shows for information the comparative “well to wheel” CO₂ emissions benefits of various vehicle technologies. It is worthwhile noting the sizeable benefits available by currently available technologies, such as the hybrid car currently commercially available from both Honda and Toyota.

