

Low Carbon Option Travels

In 2010, all energies are from fossil fuels. The transport energy growth as a result of social-economic and population changes in by 2050 will throw up impacts on the sustainable future of the world. Therefore, a low/zero technologies and fuels are necessities in Nigeria. Alternative technologies such as bioenergy, Liquefied Petroleum Gas/ Compressed Natural gas (LPG/CNG), hybrid and electric vehicles in the road transport and the rail sector should be gradually adopted to ensure sustainable development.

Level 1

Level 1 assumes growth happened by 2050 resulting in continuous dominance of internal combustion engines (ICE) at 100%

Level 2

It assumes by 2050, a reduction of ICE engines by 30% and introduction of hybrid electric vehicles (HEV) and electric vehicles (EV) at 7% and 3% respectively. Introduction of ICE engines using Gaseous hydrocarbon (LPG/CNG) contributing 18%.

Level 3

In 2050, low carbon technologies and fuels development continue to grow as a result of use of modern technologies. The share of low carbon technologies for cars, buses and trains are 25%, 25% and 65% respectively. The modal split for ICE engine between liquid hydrocarbon and gaseous hydrocarbon are 75% and 25% respectively.

Level 4

Level 4 assumes that by 2050, the climate change has become a concerned in the emerging economies like Nigeria so there is greater drive towards making vehicles more 'greener'. The low carbon emission cars and buses and the use of electric trains have a share of 40% for cars and buses and 70% for electric train. The modal split for ICE engine between liquid hydrocarbon and gaseous hydrocarbon will be 60% and 40% respectively.

Interaction

The assumptions will heavily depend on radical change in the electricity production in other to power the low carbon industries and to charge electric cars. It is also important that the electricity is mainly from gas-powered stations and other renewables.



Shift to low carbon technologies

