Gas Used as Fuel that Runs Motor Vehicles

Cleaner alternative to petrol

Petrol and diesel fuel will remain chief engine running energy sources for a long time. But the history of development and usage of motor vehicles has always been accompanied by a search for possible alternative sources of energy. The reasons for that were in the past, of the economic nature - high prices of petrol or its shortage. The search for and usage of other sorts of fuel were especially intense between the two World Wars and immediately after them as a consequence of the oil derivatives shortage.

The first coal gas run buses appeared as soon as 1918 in England. In the forties, such buses were driving across all major European cities. In Germany, there were around 1,200 coil gas run automobiles in 1938; in 1944 all buses and around 5,000 cars in Czechoslovakia used coal gas or methane as fuel. Methane was also used in Italy and Yugoslavia at that time - in latter there were supposedly 300 methane run cars then[11].
During the first World War, all the countries were also using acetylene to run military vehicles. After the war, the production of generators - acetylene developers built in motor vehicles - started firstly in France then spread across Europe.
Liquid gas started appearing as vehicle fuel in 1934, firstly in Germany. Before the second World War, gas was the most widespread gas fuel for vehicles - according to feasible data[12]*, in 1939 30,000 cars were using it in Germany, more than 12,000 in USSR and more than 20,000 in USA despite the abundance of liquid fuels there. The reason for such widespread usage of liquid gas was probably due to the fact that petrol run vehicles did not have to be specially redesigned for gas and the motors could alternatively use either petrol or gas.*

In Slovenia, the Ljubljana based bus company Avtopromet Magister readjusted their buses to run by natural gas while the Maribor Avtobusno podjetje used methane.

The cheapest and the most easily accessible sources of energy to run motor vehicles are wood and charcoal. From those solid fuels, it is possible to derive wood gas by means

Avtobus podjetja Magister po prometni nesreči v Tacnu. Na sliki so vidne jeklenke za plin (fototeka podjetja Petrol).

A Magister bus after an accident at Tacen. Note the gas tanks (Petrol's photo collection).

[11] *Miodrag Milojević: Uporaba tekočih plinov za pogon avtomobilov, Nove proizvodnje, 2/1955.*
[12] *Idem, p. 2*

Plin kot gorivo za pogon motornih vozil

Čistejša alternativa bencinu

Bencin in dizelsko gorivo sta in bosta ostala še dolgo časa glavna energetska vira za pogon motornih vozil. Zgodovino razvoja in uporabe motornih vozil pa so spremljala tudi iskanja možnih alternativnih virov energije. Razlogi, ki so vodili k temu iskanju, so bili v preteklosti ekonomske narave, kot so visoka cena bencina ali njegovo pomanjkanje. Do intenzivnega iskanja in uporabe drugih vrst goriva je prihajalo še zlasti v obdobjih med vojnami in neposredno po njih, ko je naftnih derivatov primanjkovalo.

Prvi avtobusi na pogon s svetilnim plinom so se pojavili že leta 1918 v Angliji. V štiridesetih letih so avtobusi na svetilni plin vozili po vseh večjih evropskih mestih. Nemčija je tako leta 1938 imela okoli 1200 avtomobilov na svetilni plin; leta 1944 pa so vsi avtobusi in okoli 5000 avtomobilov na Češkoslovaškem vozili na svetilni plin ali metan. Slednjega so kot gorivo za pogon motorjev v tem času uporabljali tudi v Italiji in Jugoslaviji, kjer naj bi imeli leta 1939 okrog 300 avtomobilov na pogon z metanom[11].
Med prvo svetovno vojno so za pogon vojaških vozil vse države uporabljale tudi acetilen. Po vojni pa so najprej v Franciji, kasneje pa tudi drugod izdelovali generatorje - acetilenske razvijalnike za vgradnjo na motorna vozila.
Tekoči plin za pogon vozil so začeli leta 1934 uporabljati najprej v Nemčiji. Ta plin je bil pred drugo svetovno vojno tudi najbolj uveljavljeno plinsko pogonsko gorivo za vozila, saj je po podatkih, ki so na voljo[12], leta 1939 na tekoči plin vozilo v Nemčiji 30.000 avtomobilov, v ZSSR preko 12.000 avtomobilov in v ZDA kljub obilu tekočih goriv več kot 20.000 avtomobilov. Da se je tekoči plin od vseh še najbolj uveljavil kot alternativno gorivo za pogon motornih vozil, gre verjetno pripisati tudi dejstvu, da vozil na bencinski pogon ni potrebno posebej predelovati za pogon s plinom, motorji pa lahko delajo po potrebi na bencin ali pa na plin.

Na Slovenskem je pred drugo svetovno vojno tudi ljubljansko avtobusno podjetje Avtopromet Magister preuredilo svoje primestne avtobuse na pogon z zemeljskim plinom, mariborsko Avtobusno podjetje pa na pogon z metanom.

Najcenejša in hkrati tudi najbolj dostopna vira energije sta za pogon motornih vozil les in lesno oglje. Iz teh, sicer trdih goriv, je možno s pomočjo generatorja pridobivati lesni plin. Generator za lesni

[11] Miodrag Milojević: Uporaba tekočih plinov za pogon avtomobilov, Nove proizvodnje, Ljubljana, 2/1955
[12] Idem, str. 2