

Petrol and Diesel engines to be banned



In July this year the UK Government made a statement that as from 2040, the sale of motor vehicles powered with internal combustion engines, Petrol or Diesel, will be banned and replaced by electrically driven vehicles. This followed on from a similar decision by the French Government earlier in the year. The impact of this on the lubricants industry could be quite severe as electric motors will quite likely require considerably less lubricant to operate.

A leading executive from the automotive industry once said “electric cars are the cars of the future and always will be.” Perhaps the future has arrived?

The detail of the reported ban is somewhat vague, as to whether this will include the sales of hybrid and heavy duty vehicles, (trucks and buses). At first glance it is difficult not to be a little sceptical of the plan where country regions will have to comply with emission measures intended primarily for city centres. Our cities are subject to heavy traffic congestion and on occasions of metrological thermal inversions experience NOx and photochemical smog levels rising dangerously, so something must be done? But, let's be clear on this, modern vehicles have evolved a long way with Three Way Catalysts, Particulate Traps and particularly for diesel vehicles which now have “Selective Catalytic Reduction” technology (SCR) and are able to reduce NOx emissions to virtually zero. The technology involves spraying a solution of Urea into the exhaust flow just ahead of the SCR catalyst. This reduces the NOx to just Nitrogen and water plus CO₂ which is exhausted with little or no environmental impact. Simplistically $(NO_x + CO(NH_2)_2 > 3N + H_2O + CO_2)$. The technology, based on (NH₃), has been used for decades in power plant operations. The automotive Urea solution here in Europe is known as “AdBlue” or AUS32 (Aqueous Urea Solution 32.5%). This meets the ISO specification 22241 or the German DIN Specification 70070. The presence of AdBlue has been evident in labelled containers in service stations up and down the country for some years now. Heavy duty vehicles have in the main part been fitted with SCR since 2006 and diesel passenger cars since 2015.

We have probably all seen the blue coloured filler caps on goods vehicles which actually denote an AdBlue tank. Certainly you will have seen some passenger cars badged as “Bluetec” or “BlueMotion” all denoting they use AdBlue. Should we raise concern that the main media, euphemistically labelled “instant experts,” have made little or no attempt to educate the public

about this new technology. All we have heard is bad press and public figures insisting “diesels are killing us!” We must wonder if there is a maxim of “why let the facts get in the way of a good story?”

To be fair the case against internal combustion vehicles is not all about NOx or Diesel Particulates but also about CO₂ emissions. In that context electric vehicles are ZEVs (zero emission vehicles) and will help to improve city centre air quality, but let us not forget though that somewhere there must be a power station producing the electricity! Now, from a Climate Change or Global Warming perspective, all of this power needs to come from renewable energy, including Nuclear. The changes in power infrastructure necessary will be vast. Imagine the scenario where all vehicles are plugged in after the evening rush hour! Not surprisingly, plans to ban the sale of new diesel and petrol vehicles by 2040 have been described as a “tall order” and will place unprecedented strain on the National Grid. Experts have warned that, for an all-electric car population, up to an additional 30 gigawatts of peak electricity demand would be added to the current 61 GW. This amounts to a 50 per-cent increase which in turn equates to 10 times the total output of the new Hinckley Point C power station (when it's built). National Grid predicts Britain could very well become increasingly reliant on imported electricity which could rise from around 10 per cent of total electricity to around 30 per cent, raising concerns about energy security.

On a positive note, although electric vehicles will be initially more expensive they are generally good on driveability and similar to steam engines, they can deliver maximum torque from zero revs. Additionally, we have 23 years until the proposed deadline and technology will inevitably have improved over the intervening period. Recent indications, from motor industry specialists, tend to indicate options of hybrids, hydrogen engines or fuel cells, are being favoured over straight electrics. All of these are more likely to fit in with existing infrastructure. So, automotive lubricants could still be on the agenda.

Watch this space.

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