The lure of cure-alls: the electric car and Brexit

By John Wormald, Managing Partner of Autopolis Strategy Consultants

40 years ago the US government, faced with an oil embargo and unable to control demand for gasoline via taxation, forced a radical downsizing of cars upon Detroit through the CAFE (Corporate Average Fuel Economy) regulations. The government in effect imposed designs (replacing traditional American large rear wheel drive cars built on a frame with much smaller front wheel drive ones using a unit body) and thus placed the burden of change on the supply side. This did not in the end help its automotive industry: half of US consumers accepted smaller cars but deserted to more reliable and cheaper Asian volume brands and to premium European manufacturers. Nor did it do much to cut fuel consumption: the other half of the market took refuge in gas-guzzling pick-up trucks, SUVs and vans, not subject to the same constraints and protected by a 25% import tariff. The US is far the largest market for these but its products are barely exportable. Detroit thus started on a long retreat from the global passenger car market, together with many US components suppliers.

Today in a similar move the EU is forcing the European automotive industry, morally weakened in its power to resist by its Dieselgate debacle, into a wholesale abandonment of the internal combustion engine. Internal combustion engines and the multi-ratio transmissions they require are funny complicated contraptions. Just look at those videos of a BMW V8 diesel engine being assembled. But they work very well. They are cheaply mass-produced, mainly from two of the most abundant elements, iron and aluminium. Liquid hydrocarbons fuels are cheap to make and distribute, easily stored on board and quickly replenished. Electricity is inherently more expensive to make and distribute. It is the most refined and controllable form of secondary energy. It only looks cheaper because it is taxed much less heavily. How long will governments tolerate a huge hole in their tax receipts from heavily taxed petroleum-based fuels? Electric drives are far easier to control but the motors and particularly the batteries require far rarer and expensive materials. If the geo-politics of petroleum were challenging, what about those of cobalt, lithium, rare earths and even copper? Especially with China in the game in a big way. Battery electric cars have no mass market appeal. They are expensive and inconvenient. Take up remains very low. There are ominous signs of a consumer revolt against them coming from the less prosperous parts of Europe. Frans Timmermans boldly states that he will make sure they are affordable. How? New car purchases are eminently deferrable, the life of older cars can be considerably prolonged. One could see that in Australia but most spectacularly in Cuba.

Electric vehicles work well in some specialized applications. Remember the electric milk float. Stellantis proposing to use its Ellesmere Port plant to build electric vans makes sense. They seem not to be asking for a huge subsidy from the British government, nor expecting to have a British battery supplier. Conversely, Nissan's large and productive assembly plant in Sunderland is by far its greatest manufacturing asset in Europe, now facing local content problems in exporting to the EU because of Brexit. Hence the pressure to establish battery suppliers in the UK – with the help of large government subsidies. Honda is gone. Toyota is keeping its counsel. Battery electric cars may work for short-range commuting, shopping and social purposes but they are and will in all likelihood remain problematic for longer-distance travel, for which plug-in hybrids could continue to offer a solution, albeit a complicated and expensive one. BEVs are obviously unsuitable for heavy long-range trucks and construction machinery. Sir Anthony Bamford, chair of JCB, a rare example of a globally successful British manufacturing firm, argued in a recent op ed in the Financial Times that policy makers had been gulled into BEV monomania by Elon Musk. JCB has developed a diesel engine that runs on compressed hydrogen. Construction machinery can accommodate the necessary high-pressure tanks, which are very space-consuming in a passenger car. BMW explored this technology

some years ago and gave up on it. Similarly, a transit bus can carry enough hydrogen to run a fuel cell-electric drive – ideal for urban driving conditions – all day, and be refuelled from an electrolyser/compressor station at the bus garage overnight. In some applications (aviation being the obvious one), liquid biofuels may be the only sensible solution. Climate change is a pressing problem of the utmost gravity, and transport is a major and growing contributor to it. Solutions must be found but in the plural. Some bio-diversity would be prudent. And is zero-carbon absolutism really essential right across the board? Instead of imposing a single supposedly cure-all technology, we need to accept diversity, promoting the most suitable driveline for each type of application.

Above all, we need to treat the disease not the symptoms and address the issue from the demand side. Our problem is too many people, driving too much, in vehicles with too low an occupancy ratio, and often over-sized for the purpose. Covid-19 has shown that we can live with a great deal less physical movement. We already have the means to charge for the use of transport infrastructure in a sophisticated and fair fashion, through universal tolling. We need to build on this and learn to live much more frugally, rather than trying to protect existing levels of mobility and today's automotive industry. This represents a colossal social and political challenge for developed societies and the liberal political order. New technologies can contribute but relying on technology-push alone will not suffice. This requires leadership of the highest order, not peddling pseudo-solutions. We need a real plan, based on a thorough analysis of transport needs and solutions, and viable options.

A wholesale ban on the sales of new internal combustion powered cars from 2030 is a grandiloquent statement, not a plan. And there lies the analogy with Brexit. The UK's position, capabilities, prospects and potential in the world merited – nay, required – a thorough and dispassionate analysis, from which realistic options for its future could be developed. This of course needed to include an evaluation of the European Union and of the UK's membership of it. Necessary and justified but complicated because the trade-offs are many and difficult, especially between national sovereignty and economic interest in a globalized world. What we got instead was a simplistic binary choice – Stay or Leave – with no serious attempt to define the options or implications for the benefit of the electorate. Sloganeering triumphant over rational analysis and debate. Sovereignty won but on a false prospectus, with gravely divisive political consequences and sectoral impacts that are only just beginning to emerge.

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