

AUTOMOBILE INVESTMENT

Driving the future

Gulf countries are in a strong position to take the lead in the rapidly growing global industry for all-electric cars

IN 1885 Carl Benz, a German inventor, received a patent for the world's first gasoline-powered automobile. Fifteen years later, another German inventor, Ferdinand Porsche, unveiled an internationally acclaimed electric vehicle, the Lohner-Porsche. For a brief period at the start of the 20th century, electric cars outnumbered petrol-powered vehicles in European and American cities. The demise of electric cars due to technical limitations and the simultaneous rise of petrol vehicles in many ways shaped the fortunes of Gulf oil producers.

Today, the automobile society is moving irreversibly towards all-electric cars – a development that will once again impact on oil producers and, potentially, provide a lucrative opportunity. The resurgence of electric vehicles offers the Gulf a chance to spearhead the development of the multibillion-dollar electric vehicle market. Developing such an industry would not only support sustainable growth and job creation, but it would also fit comfortably with regional plans to develop renewable energy technologies.

Gulf countries could potentially export renewable energy and carbon credits just as they export oil today. The oil currently earmarked for petrol could in the future be sold within the framework of the Organisation of Petroleum Exporting Countries to other industries, such as chemicals or pharmaceuticals, at a higher price level for more years.

However, to realise this opportunity Gulf countries must depart from conventional automotive wisdom. Mercedes,

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BMW and others are technologically advanced in this area. But their head-start with all-electric cars is minuscule. Their advanced technological know-how is tied to components unnecessary in all-electric cars – such as combustion engines, fuel injection or alternative fuels. In the field of all-electric cars, all players start from scratch.

Traditional manufacturers and suppliers and emerging manufacturers in India and China included are not eager to develop all-electric cars. The simple reason is that this would make the hundreds of billions of dollars invested in conventional technologies, such as gasoline efficiency, alternative fuels, crash safety and component development, worthless.

The recent hype over hybrid cars is just the latest attempt to prolong the life of these conventional technologies. Against this background, even Abu Dhabi's acquisition of a 4 per cent stake in the electric car start-up, Tesla Motors, is only a half-step in the right direction. Tesla vehicles, despite featuring electric propulsion, are essentially conventional cars filled with laptop batteries; they have not been designed to be all-electric cars.

To utilise the full potential of all-electric cars, both design and engineering processes must go back to square one. Electric engines must be decentralised from each wheel, thus eliminating the need for engine compartments, gear boxes and transmissions. This greatly enhances interior space,

comfort and crash safety. Remarkably, the 1900 Lohner-Porsche already featured this technical set-up.

The key element to establishing the next generation of the automotive industry and for Gulf countries to assert a dominant position within this new mobility paradigm is separating the battery from the car. In the next generation of electric vehicles, car batteries will be exchanged and recharged at e-fuel stations, similar to the way we refill our conventional cars today. Storing and recharging batteries at e-fuel stations solves other crucial issues connected to the Gulf countries' renewable energy drive: it allows renewable energy to be stored. It also allows for efficient grid management.

Modern lithium-ion batteries already provide a range of some 200 kilometres. With an estimated average mileage per car in the Gulf Co-operation Council of 150 kilometres a day – and much less in small countries like Bahrain – even a loose network of e-fuel stations would ensure full coverage, which would keep infrastructure investments at a minimum.

The Gulf also has a number

of natural advantages. Raw materials for electric engines and batteries already exist in the region as well as important resources such as aluminum, solar radiation and logistics. A dedicated buy-and-build strategy is needed to fill the remaining few gaps in expertise in the relevant technology fields and to combine these elements in a comprehensive industrial set-up. The required investment is likely to be feasible.

All factors combined, the region has a significant opportunity to become an “automotive 2.0” centre. In line with Abraham Lincoln's famous maxim – “the best way to predict the future is to create it” – Gulf governments with their enormous natural resources, and national savings are in a position to do just that. ■

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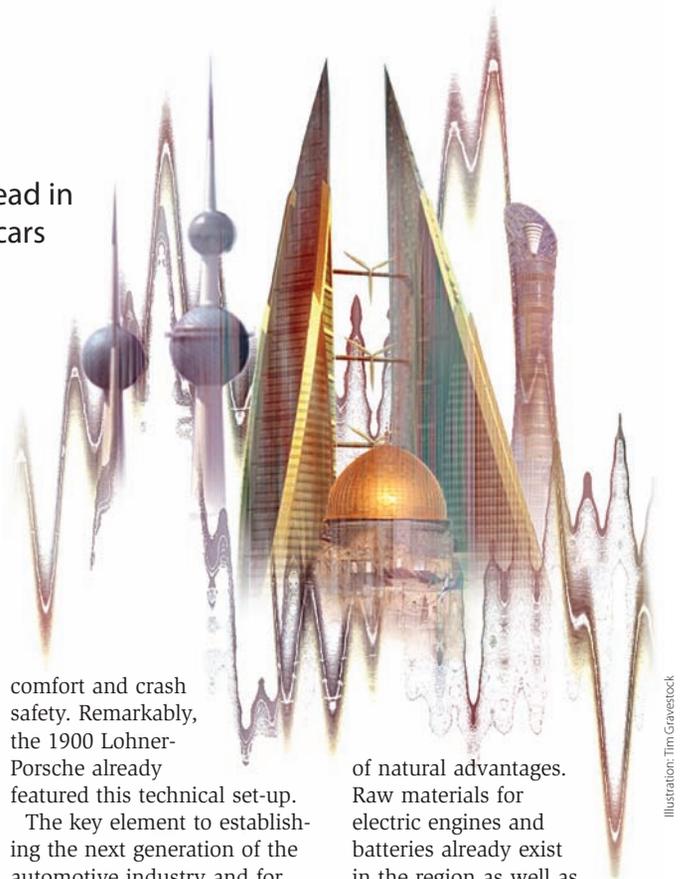


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