

Cross-harbor ferries may be viable for the switch to electric drive. REUTERS



## EV SWITCHOVER MAY WORK FOR BUSES AND FERRIES

My article last week might have given a bleak view of the future for electric vehicles. Please let me brighten up the picture on buses and ferries.



### Nuts and bolts

Edmund Leung

Provisions were made in last month's budget for buses and ferries to try out electric drive.

I think there might be an opportunity here.

Let me first deal with commercial vehicles.

BYD, the largest manufacturer of battery-driven vehicles in China, trialed electric taxis here some five years ago.

It failed miserably for two reasons.

The first is the usual range issue.

A taxi driver can easily cover 300 kilometers or more in an eight-hour shift, and that was more than battery technology could handle at that time.

Recharging stations could not be located at convenient places, such as where drivers rested, and therefore such taxis quickly died a natural death.

Range issues also precluded the use of electric power for delivery lorries.

I am aware that milk floats in the West have been operating satisfactorily, but they run for less than two hours a day and only for short distances.

For buses, though, there may just be an opportunity.

They run along fixed routes and bus companies can accurately predict the mileage needed for each shift.

They may also be able to install fast-charging outlets at bus stations.

However, with the huge number of buses, parking is already a challenge, and both the transport department and bus companies will have to find space to enable charging at terminals.

There will also be a need to limit the weight of the heavy batteries and motors to allow for adequate passenger capacity.

My personal view is that it can only be successful on short routes with less frequent service, probably in suburbs.

But should batteries that are lighter but have larger electrical storage capacity be available in a few years, this may just make the experiment viable.

For ferries, there may be even more room to apply electric power.

First, our cross-harbor ferries have been running for many decades without technology updates, and the use of heavy oil as fuel is a cause of pollution.

Second, ferries travel between fixed piers and their stops are frequent and long, making recharging more practical.

Third, compared to taxis, lorries and buses, their duties are far lighter while their weights are relatively less critical, especially when the engines ferries use are already made of heavy metal, so replacing them with batteries and motors may not necessarily add too much extra weight.

All that is required for ferries to switch over will be to fund the cost of replacing old engines with electric drive.

The environment bureau has had the wisdom to suggest a subsidy for ferry firms to start a trial to this effect and it will be interesting to see if it can work.

The Hong Kong administration is on the right track in wanting to bring about a reduction in air pollution from land and sea transport vehicles.

As bus and ferry operators are large conglomerates with huge resources for research and development, when given the right incentive, it may just be possible that they can be encouraged to be more innovative to help to improve air quality to the benefit of all.

After all, it should already be part of their environmental, social and governance initiative.

**Veteran engineer Edmund Leung Kwong-ho casts an expert eye over Hong Kong's iconic infrastructure**