

Electric vehicles drive change in grid operators and oil firms

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WANT to make a quick buck with your electric vehicle? In five to ten years, you might just be able to do that, by selling electricity from the car battery to grid operator SP Group when power supply in Singapore runs low.

That charging station you pull into to do that may also very well be run by Royal Dutch Shell, a name more familiar today for its petrol stations.

As electric vehicles grow in popularity, it is not only carmakers and transport groups that are affected. Among those who find themselves having to adapt their businesses are electricity grid operators and oil companies.

In Singapore, SP Group is prepar-

ing for the day when there are so many electric vehicles the stability of the grid could be affected.

"Today there are 600,000 cars in Singapore. If all of them become electric vehicles, and they all start charging in Jurong, at some level Jurong won't be able to handle it. The rest of the system will be destabilised," said SP Group CEO Wong Kim Yin in an interview with *The Business Times*.

Emphasising that the group is not against the adoption of electric vehicles, Mr Wong said SP Group will as far as possible allow the market to run as it is, unless a certain threshold is breached.

At that point – which Mr Wong reckoned could come in five to 10 years – the group will then need to intervene, possibly by not allowing electric vehicles to charge so that more critical users can access the power supply.

He cited as an example: "Maybe someone with a life support system at home cannot afford not to have that power as opposed to you being able to charge the car."

In such a situation, someone will have to segment power needs according to their criticality, and make a call on the allocation of power supply, he said.

This is why SP Group will need the ability to intervene in the market, such as by notifying car owners through an app that they are not able to charge, and to offer to buy electricity at a much higher price instead, or to control the charging stations.

Grid operators all across the world are finding that they have to rapidly change their businesses in order to cope with unexpected surges in demand for electricity as electric vehicles proliferate. The National Grid, which operates the power net-

work in UK, last year launched a trial with Nissan allowing drivers to sell electricity stored in their electric car batteries back to the grid during peak hours.

UK think-tank Green Alliance estimates that it could take as few as six closely-located vehicles charging simultaneously during periods of high power demand for there to be possible shortages. Network operators there are also reportedly planning to install technology that allows cars to be charged only when the network can cope, when electric vehicles become more prevalent.

When such a time comes, SP Group believes it will have to establish a threshold that strikes the right balance between allowing market operations to run, so as to maximise value for the consumer, against the need to ensure reliability and security in the grid.

"We think of the future stability

from the perspective of balance...If you lower (the threshold), it enables market operations. If you put it too high, you are impeding market operations," said Mr Wong. "Our motivation is that the consumer must win without compromising reliability and security."

For oil major Shell, the future of the transport sector is one that it is keeping a close tab on. The Anglo-Dutch group said earlier this year that it is introducing battery charging points at some petrol stations in Britain and the Netherlands.

France's Total is studying the viability of such a move, while Italy's Eni already has such facilities at some domestic and central European stations.

Shell executive committee member Maarten Wetselaar told BT in a recent interview: "I could certainly see a business over time where we could become major chargers of cars."

The group, through its New Ener-

gies unit, is currently conducting research to explore the possibility of developing differentiated technologies in batteries.

It has no ambitions in manufacturing batteries, but is interested in learning "how can we best and in a fast way charge batteries", he said. "Because at the end of the day our business is delivering energy to customers and that delivery is our main business".

The group is also placing some of its bets on hydrogen-fuelled vehicles. "I think it's likely that the world will end up using both batteries and hydrogen for powering light vehicles...We're not betting on a single outcome – we want to be good at all of them," said Mr Wetselaar.

Ultimately, whichever technology becomes more prevalent will depend on customers' choice and regulators' decision, and Shell will offer whatever the customer wants, he added.