NZ can be a fast follower of Norway's EV success

Felicity Wolfe - Mon, 21 Mar 2016

Incentives, not charging infrastructure, is key to encouraging the take up of electric vehicles, Christina Bu of the Norwegian Electric Vehicle Association says.

Norway has nearly 100,000 electric cars on its roads, which Bu, the association’s secretary-general, says is thanks to a package of government-backed incentives.

These include eliminating new car taxes on the vehicles and letting them travel on toll roads and ferries for free.

She says the growth of EV ownership from almost zero in 2010 shows the incentives work.

“The analysts were astonished.”

Bu says New Zealand’s high proportion of renewable generation means it is well placed for widespread adoption of the technology.

Norway, like New Zealand, is a long, narrow country. It has about 5 million people, about 2.5 million cars and parts of it are also very sparsely populated. It has about 95 per cent renewable generation, mostly from hydro.

The country has a progressive purchase tax on new cars, which target bigger, higher polluting vehicles. This can range up to the equivalent of $20,000, Bu says. Taxes are also lower for fleet buyers and electric cars are also able to use toll roads and ferries for free.

These measures have improved the competitiveness of EVs and also “works as an eye opener”, she says.

“There needs to be an incentive to try something new.”

Rural takeup

Speaking at the BusinessNZ-hosted Asia Pacific Energy Leaders’ Summit last week, Bu told about 200 delegates that there has been comparatively little investment in charging infrastructure in Norway.

While there has been quite a lot of emphasis on the availability of chargers to drive EV take-up in New Zealand, the Norwegian focus has instead been on making the cars more affordable than their internal combustion engine counterparts, she says.

Oslo has on-street chargers which allow people who live in apartments to buy EVs, but rural drivers often have long distances between public charging stations, Bu says.

But people outside of cities also buy the cars.

While most people perceive the vehicles as suitable only for city driving, the Finnmark region which sits largely in the Arctic circle last year accounted for 18 per cent of Norway’s total EV sales.

Private firms have been unsure how to make money from EVs but have “finally” begun investing in chargers during the past 12 months. The Norwegian government has also committed to installing at least one charger per 50 kilometres of state highway.

Ambition needed

Massey university professor Ralph Sims says electric vehicles and digital technology could help New Zealand make big reductions to its transport emissions, but the Government needs to be “ambitious”.

LandCare Research last year told the government that New Zealand could save about 6 million tonnes of emissions from transport between 2021 and 2030, and buy 170 million tonnes of international carbon credits to meet the bulk of its emissions reduction obligations.

“Surely we can do better than that,” said Sims, a former lead transport report author with the UN’s Intergovernmental Panel on Climate Change.

Technology, including internet conferencing and shopping, is already providing people the means to reduce the number of journeys they need to take, he says.

But the choices people make are influenced by factors such as the speed, cost, comfort and convenience of the options.

For instance, Sims often uses bus services to travel between Palmerston North and Wellington, but sometimes drives his hybrid EV. Conversely, the lack of investment in KiwiRail’s infrastructure means train journeys are too uncomfortable and that while he once cycled the 140 kilometre distance once, “it takes too long”.

Driverless future

The New Zealand Government last week announced it has partnered with Domino’s to look at developing the world’s first unmanned pizza delivery service.

Transport Minister Simon Bridges said on Friday that New Zealand’s enabling laws and regulation makes New Zealand an “ideal environment to trial all forms of technology”.

“Over the last 12 months I’ve been actively and aggressively promoting New Zealand as a test bed for new transport technology trials.”
Sims told delegates that the energy industry and regulators need to plan for driverless cars being on New Zealand’s roads within a decade.

“The world of transport is changing faster than anything else we have talked about.” That will result in much lower private car ownership and much more use of transport as a service, he says. Everyone will have “the right to transport” but there will not be the need to own a car.

Bu says there is a “virtuous cycle” between EVs and driverless technologies “There is a reason why Elon Musk and Google are investing in this technology.”

**Multi-platform future**

Honda Motors’ chief engineer Kazuyuki Iwata says that firm is developing a number of technologies including pure EVs, hybrids and hydrogen fuel-cell powered cars. Rather than picking one winner, Honda believes that a range of technologies will be used depending on circumstances and location, he told delegates.

The firm is also keen to develop fuel and energy storage solutions that will work across the transport and static energy sector – it has developed the Honda homes system and the hydrogen society concept.

Hydrogen fuel cells can offer distance security that batteries cannot yet offer – up to 750 kilometres of range, Iwata says.

But the University of Auckland is looking to eliminate fuel cells and batteries by charging cars as they pass over pads built into roads.

John Boys, a professor emeritus at the university, says the system would also directly power the vehicles’ wheels, avoiding about 15 per cent of losses when energy passes through a battery.

“It is the most efficient use of energy.” He says the under-road technology would eliminate the need for charging stations. The technology has gained funding from conveyor-system firm Daifuku and Boys is currently looking for more funds.

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