Private Passenger Transport by Electric Vehicles

There were around 3 million light passenger vehicles registered for the year ended 2016. That same year, the Government announced a goal of reaching 64,000 electric vehicles (EVs) on our roads by the end of 2021, approximately 2% of the existing light passenger fleet. By the end of 2017 the electric vehicle fleet was slightly over 6,000.

The challenge

Your team has been commissioned to: *advise the Prime Minister on practical policy that will achieve the stated target of 64,000 electric vehicles by the end of 2021*.

Your report will:

- Be based on the assumptions listed below.
- Briefly describe existing private-public initiatives that support entry of EVs into the light passenger fleet in New Zealand.
- Describe, and justify, a practical strategy that includes private-public incentives, partnerships, and programmes, that will accelerate the entry of EVs into New Zealand's light passenger transport fleet.
- Highlight the benefits (broadly defined) of your advice.

Your team

- Your team will comprise four undergraduate students enrolled at the University of Auckland.
- Include at least one student enrolled in an undergraduate programme at the University of Auckland Business School.
- Include at least one student enrolled in an undergraduate programme in another faculty at the University of Auckland.

Your report

- Will be a report to a government official in the Department of Prime Minister.
- They will assess your report on
    - Clear identification of the challenge
    - Private sector opportunities for investment & business
    - Clear identification of the appropriate role for business and government
    - Justification of benefits associated with your policy

- Your report is limited to 10 sides of A4 paper. If you wish, use diagrams to illustrate your policy advice.

Process

Release of the challenge	Friday, 16 March (a.m.)
Tutorial	Friday, 16 March (6-8pm)
Registration of teams	Friday, 16 March (midnight)
Submissions close	Thursday, 22 March
Short-list 5 finalists	Friday, 23 March
Presentations by 5 finalists	Monday, 26 March

The panel will decide on the following awards for each team of 4 participants:

1st place	$5,000 ($1,250 each)
2nd Place	$2,500 ($625 each)
3rd Place	$1,500 ($375 each)
2 remaining teams	$1,000 ($125 each)

Judging panel

- Tim Henaghan — Chair, Energy Education Trust of New Zealand
- Peter Sewell — Energy Education Trust of New Zealand
- Phil Jones — Sustainable Business Network
- Chris Money — Ernst & Young

Criteria for judging the policy

- Evidence, where possible, on the costs associated with the existing private passenger fleet
- Understanding the dimensions of introducing innovative technology
- Well researched pragmatic and creative recommendations
- Recommendations that are supported by sound argument

Problem environment

New Zealand has more cars per head of population than most OECD economies. We depend on imported oil to power the fleet and road transport is a leading source of greenhouse gas emissions. Ownership of New Zealand's road infrastructure is complex. For the purposes of

the Challenge assume that central government owns and manages motorways such as State Highway 1. Local government owns and manages road networks that connect with motorways. Private sector service stations are strategically located on both local roads and state highways. They obviously supply the fuel and services for light passenger transport. With the arrival of EVs these businesses will most likely continue to supply fossil fuels and, perhaps, offer charging stations. However, there will be new entrants into supplying electricity to EV car owners, possibly lines companies and electricity generators. EVs can be charged from home, using electricity purchased from the grid, generated from solar, and possibly stored in batteries. Electricity stored in EV batteries could also complement household needs. Charging services could be available in commercial car parks, office car parks, and so on.

Assumptions

- Your report should not adopt the position of any political party.
- You are not to analyse a specific business supplying energy products and services.
- Businesses are for-profit and their shareholders expect a "normal return" on capital.
- Government, both local and central, will focus on the costs and benefits associated with your recommendations.
- Your policy should inform a government official in the Department of Prime Minister on the appropriate private-public strategy to at least achieve the targeted number of EVs.
- Capital is not a constraint. Although government, business and households will weigh up the costs against the benefits associated with your policy.