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91733



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NEW ZEALAND QUALIFICATIONS AUTHORITY
MANA TOHU MĀTAURANGA O AOTEAROA

QUALIFY FOR THE FUTURE WORLD
KIA NOHO TAKATŪ KI TŌ ĀMUA AO!

SUPERVISOR'S USE ONLY

Level 2 Education for Sustainability, 2018

91733 Demonstrate understanding of initiatives that contribute to a sustainable future

2.00 p.m. Monday 26 November 2018
Credits: Four

Achievement	Achievement with Merit	Achievement with Excellence
Demonstrate understanding of initiatives that contribute to a sustainable future.	Demonstrate in-depth understanding of initiatives that contribute to a sustainable future.	Demonstrate comprehensive understanding of initiatives that contribute to a sustainable future.

Check that the National Student Number (NSN) on your admission slip is the same as the number at the top of this page.

You should attempt ALL parts of the task in this booklet.

Pull out Resource Booklet 91733R from the centre of this booklet.

If you need more room for any answer, use the extra space provided at the back of this booklet.

Check that this booklet has pages 2–8 in the correct order and that none of these pages is blank.

YOU MUST HAND THIS BOOKLET TO THE SUPERVISOR AT THE END OF THE EXAMINATION.

Excellence

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Resource Booklet 91733R contains resources relating to initiatives that encourage people to use electric or hybrid vehicles:

- **Resource A** – The sustainable nature of electric/hybrid vehicles.
- **Resources B and C** – Two different initiatives that encourage people to use electric/hybrid vehicles.

Refer to ALL resources in responding to the following task.

TASK

- (a) (i) Why are electric/hybrid vehicles considered to be more sustainable? Refer to **two** of the four aspects of sustainability: environmental, social, cultural, economic.

Aspect 1: Environmental

Electric/hybrid vehicles are considered to be more sustainable for a number of reasons. This relates specifically to the sustainability aspect of 'environmental.' Petrol/diesel powered cars carbon emissions generally come during the operation of the car rather than production. However, "electric vehicles ~~powered~~ ~~by electricity~~ ~~now~~ that only consume a third as much energy in operation are inherently greener," of which makes them ^a more sustainable option. "Electric vehicles powered by hydro, solar, wind, or nuclear sources produce no carbon in operation." They are also considered more sustainable because the electric cars are more efficient at turning energy into kilometers driven, opposed to petroleum-

Aspect 2: Economic

Electrical/hybrid vehicles are considered to be more sustainable for a number of reasons. This relates specifically to the sustainability aspect of 'economic.' As mentioned above electric cars are efficient at turning the energy into km's driven. This means that cost-wise it would be cheaper to run an electric vehicle in the long-term run - so in an economic ~~sense~~ ~~if~~ point-of-view, it would make sense to purchase one, because it's cheap, as well as good for the environment. "Globally, the total number of electric cars sold passed the 2 million mark in 2017, compared to just hundreds in 2005." This is a positive set of stats, because economically the cars are contributing to a more healthy, sustainable way of transport.

- (ii) Discuss how well the two initiatives described in Resources B and C are likely to achieve their intended outcomes to increase the usage of electric/hybrid vehicles and reduce carbon emissions.

Initiative 1 (Resource B): The 'Manufacturers change to produce only electric vehicles' initiatives intended outcomes ~~is to~~ is

In Norway the government's transportation plan

~~that they~~ want "all new passenger cars and vans sold in 2025 should be zero-emission vehicles." We can already tell that they are likely to achieve their intended outcome due to their goals/steps achieved already towards it. "They are considered a leader in this area, ~40% of cars sold in the country last year were electric or hybrid vehicles." This means that they were able to effectively sell ~40% of electric/hybrid vehicles, showing that most likely they will be able to lift this result to 100% within a matter of years. Another manufacturer, Volvo ^{new cars} wants "from 2019 onwards to be partially or completely battery powered." "Between 2019-2021 they will introduce \$ new models that are 100% electric." They have clear and strict targets set in place in order to "help the Swedish firm meet legally binding carbon

Initiative 2 (Resource C): 'Government subsidies' intended outcome is to offer "subsidies on the purchase of new hybrid or fully electric vehicles." This in return means the cost of purchasing the vehicles are reduced, to reduce carbon emissions as well as moving away from non-renewable energy sources (fossil fuels in particular. In the UK "electric cars are eligible for a ~~35~~ grant 35% of their purchase, maximum of £4500." This is important because it encourages people to buy these vehicles in order to greatly reduce carbon emissions. China has also provided subsidies of \$ 15,000 NZD per vehicle. This money will greatly encourage people to buy electric vehicles because of the cost-cut they will go through. In return positively reducing carbon emissions, their intended outcome.

- (b) Evaluate which initiative best meets the concept of kaitiakitanga (guardianship). You may relate your answer to local, national, or global settings.

The initiative that best meets the concept of Kaitiakitanga is 'Manufacturers change to produce only electric vehicles' this is because overall it seems more effective to only produce electric cars, until eventually it will be the only option for people to purchase. In this way places like Norway, of which their goal is to sell all new passenger cars and vehicles to be zero-emissions. This in return means that within the next 7 years all cars sold will be emission free and within the next ~ 70 or 80 years hopefully everyone or nearly everyone would have converted to electric/zero-emission cars and vans. This contributes to ~~the~~ the sustainability of the environment more specifically and seems more achievable compared to government subsidies, because it means that with subsidies people still have that option to purchase petroleum powered cars, which is only contributing to carbon emissions and wider issues like global warming. However, slowly phasing out petroleum cars and eventually replacing them altogether will be more beneficial to the environment. This relates to Kaitiakitanga because by using the more sustainable initiative, it shows that they want to tackle the problem head-on and fully, showing great respect to the land and environment. By manufacturing cars that are ^{carbon} emission free it shows that they are willing to be in harmony with the environment and not harm one another. Until hopefully each country will only have ~~set~~ electric cars, in order to help tackle major issues like climate change directly and that shows great Kaitiakitanga and guardian

- (c) Explain how ONE of these initiatives could apply to another context or issue of sustainability. You may use the context of electric vehicles, or a different context from your own studies.

The initiative of 'government subsidies' could apply to the 'predator free 2050' initiative in New Zealand.

This initiative aims to be predator free from major pests like for example possums, rats, ~~ferrets~~ stoats etc, of which destroy our native plant and tree life, as well as our precious and native species. Species

include kiwi and whio, of which are currently in low numbers ~~of~~ and depleting because of predators.

I believe that the NZ government could give out subsidies to farmers, iwi, organisations ~~that~~ that are wanting to help out, and even the public to purchase traps to put on their properties in order to help rid NZ of predators by 2050. By using the concept

of subsidies from places like the U.K and china and applying it to a NZ initiative, I believe it could be effective. This is because people such as farm owners do have rat and possum problems

sometimes within their forests they have on their land. Traps can also be very expensive to purchase and that's why some people don't bother. so by

having government subsidies they will be able to purchase necessary traps to help combat the pest issue that is very evident within NZ. It would

also be effective for even the public to get on board because even in towns and cities rats are a big issue as well, it's not only in rural areas and forests ~~there~~ that pests are in. This would

be effective in helping NZ become 'Pest Free by 2050,' in order to preserve our native plant/tree

Extra space if required.

Write the question number(s) if applicable.

ASSESSOR'S
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QUESTION
NUMBER

Aspect 1:

a(i) powered vehicles. More specifically the environmental benefits can be seen within the statistics. "This performance translates into an equivalent fuel consumption of more than 80km per litre". Traditional gasoline vehicle's stats are ~4-10km per litre. This highlights the main question of why they are more sustainable, as electric vehicles can travel further distances, without harming the environment and contributing to high carbon and CO₂ emissions, ultimately making electric cars more sustainable.

Aspect 2:

Market projections by Bloomberg New Energy Finance say: "electric models will make up 35% of all new car sales by 2040, some oil companies are worried about the impact on them." This quote shows that electric car sales are becoming more popular, meaning oil companies will be threatened and therefore sell less petroleum - possibly in the near future having to slowly shut down. This 'buying electric car/sustainable method' means that non-renewable resources may be a thing of the past in the future, helping contribute to a more sustainable way of life.

a(ii) Initiative 1: targets for new cars sold in the EU from 2020. This most likely means that the Volvo company, too, will be effective in meeting their intended outcome. It is also important to note that they were also reacting to customer demand, a social and environmental aspect, that people want to become more sustainable.

c) of which are very important, this ^{concept of} government subsidies ~~to the NZ~~ also shows great respect to our environment and also kaitiakitanga.

Excellence Exemplar 2018

Subject	Education for Sustainability	Standard	91733	Total score	08
Q	Grade score	Annotation			
1	E8	The candidate has provided consistently comprehensive evaluations of initiatives and their relative contribution to a sustainable future. Comprehensive conclusions include regular use of resource material and evidence of using material from previous studies. The concept of kaitiakitanga was discussed.			