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93401



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SCHOLARSHIP EXEMPLAR



Mana Tohu Mātauranga o Aotearoa
New Zealand Qualifications Authority

Scholarship 2023 Geography

Time allowed: Three hours
Total score: 24

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 answer ALL the questions in this booklet.

Pull out Resource Booklet 93401R 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 2–24 in the correct order and that none of these pages is blank.

Do not write in any cross-hatched area (AREA TO BE
DO NOT WRITE). This area may be cut off when the booklet is marked.

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

INSTRUCTIONS

The materials in the resource booklet will enable you to become familiar with the theme and contexts of this examination: **energy in a global context**.

Information to answer any question can be taken from any resource.

Your answers to ALL three questions must include:

- specific information from the resource booklet
- knowledge and insight you have gained from your studies in geography
- relevant original and/or effective visuals, such as maps, graphs, and diagrams.

Space for planning has been provided on pages 4, 10, and 16 to help you prepare your responses. The questions on page 3 are repeated on their respective planning pages.

QUESTION ONE

Perspectives are bodies of thought, theories, or world views that shape people's values.

Critically evaluate through perspectives the use and production of fossil fuels compared to alternative forms of energy.

Use page 4 to plan your ideas, and begin your answer on page 5.

QUESTION TWO

How significant is geographic location in influencing the geopolitics of global energy? Discuss.

Use page 10 to plan your ideas, and begin your answer on page 11.

QUESTION THREE

The United Nations has stated that the energy sector is the source of around three-quarters of greenhouse gas emissions. Its Paris Agreement goals state that emissions need to be reduced by 45% by 2030 and reach net zero by 2050.

Discuss the likelihood of these goals being met across the globe.

Use page 16 to plan your ideas, and begin your answer on page 17.

QUESTION ONE

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PLANNING

3P spice

non fossil fuels VS renewable energy

- economic - fossil fuels good - ~~RE~~ FF
- social - wellbeing - Niger Delta renewable
900,000 - water source
- environmental
 - ↳ renewable
 - ↳ less waste
- good or bad
- state FF first

Begin your answer to **Question One** here:

~~As the world is realising~~ During a time where as a globe are shifting towards ideas of renewable energy sources - type of energy that is naturally occurring & in constant supply, it is a time where a reflection of renewable energy & non-renewable energy should be ~~taken.~~ compared. There can be multiple perspectives on this, economic, social & environmental that affects our beliefs of what is right & what is wrong. Thus, it is crucial to evaluate these different perspectives as we move forward with energy use.

~~From an~~ The leading perspective of fossil fuels VS renewable energy is an economic one. Many see the ~~economics of using~~ the use of fossil fuels to be better than renewable energy due to the economics of it. As seen in ~~the diagram 1~~, Fossil fuels compared to renewable energy sources are cheaper, more stable & more easily accessible, compared while still providing energy for the world & jobs. This is why ~~for~~ the biggest cities in the world still use fossil fuels such as India with 78% of energy being fossil fuels, China with 66%, USA with 61% & South Africa

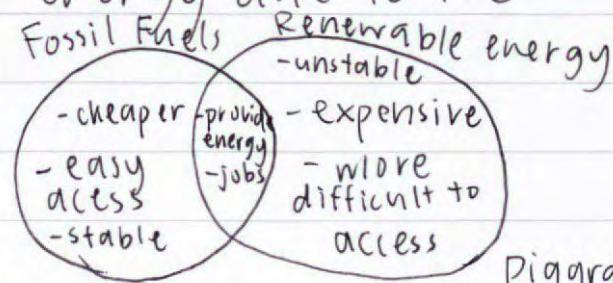


Diagram 1

with 87%. Alongside this, off the top 5 oil companies, Exxon, Chevron, BP, Shell & Total Energies generated \$ around \$500 billion GDP in 2022 alone, their largest sum. With these stats it is hard likely that many still use & produce fossil fuels instead of renewable energy sources. Therefore, through an economic perspective, fossil fuels ~~are much~~ generate more wealth & are ~~pref~~ preferred against renewable energy sources.

However, when we see the use & production of fossil fuels through a social perspective, there are very conflicting views on this compared to the ^{economic} perspective. Due to the wealth generated by fossil fuels, this has corrupted the minds of many. In the Niger Delta, ~~due to thief of~~ one of the largest oil producing location, it has become vulnerable to thief & ~~ma~~ maritime piracy. As many live around the Niger Delta, being many have experienced life threatening experiences due to those who want to steal the oil. These thieves not only steal the oil near the Niger Delta but also harm families & people who live by it. This has left traumatising experience for people & left many in extreme poverty, destroying their well being. Not only this, but the effects of fossil fuels such as oil damages their health. Throughout the

years there have been many oil spills in the Niger Delta, leaving the water sources there contaminated, with over 900,000 & dangerous for people living there to drink. Thus due to the greediness of people who want these fossil fuels such as oil, lives are being destroyed. In America, the "American Lung Association" states that if they are able to ~~the renewable~~ switch to clean energy - renewable energy they are able to total \$1.7 trillion ~~less~~ by 2050 for health benefits. This demonstrates that ~~fossil fuel~~ the consumption of fossil fuels are destroying ~~healthy~~ i healthy lives.

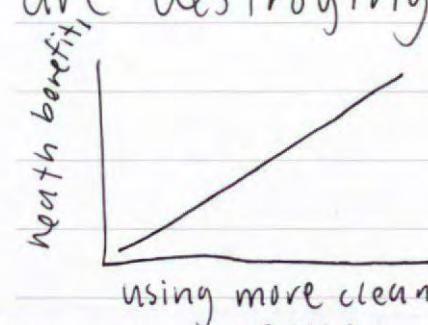
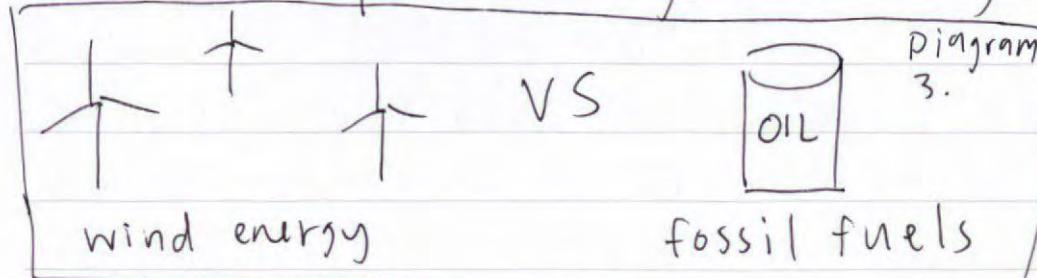


Diagram 2: energy

Thus, as seen in diagram 2, as we use more clean energy, there are more health benefits.

Through this social perspective, the reliability & resistance of clean energy sources are also much less prone to large scale failure as they are distributed well, whereas in comparison, fossil fuels are much more prone as they are densely distributed.



In Diagram 3, we can see how turbines are distributed over a large geographic area, whereas Oil is not. During Hurricane Sandy, fossil fuel dominated areas such as NYC & New Jersey left millions of people without power,

whereas, renewable energy sources in the north-east had minimal damage to Hurricane Sandy.

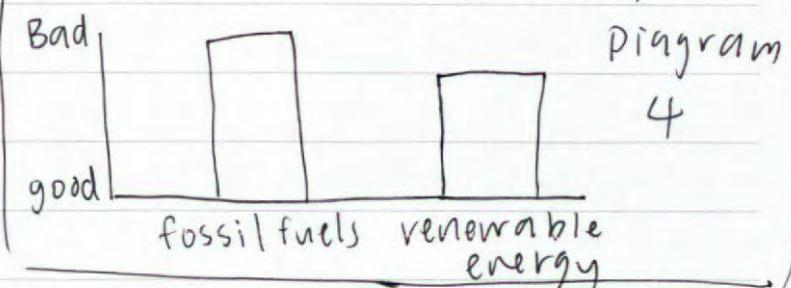
Again, this displays how our social well-being & health is being damaged due to fossil fuels.

Therefore, through a social perspective it is clear that renewable energy sources have many more benefits than fossil fuels.

Lastly, through an environmental perspective the use of fossil fuels is clearly detrimental to environment compared to renewable energy sources. While both types of energy impact the environment, fossil fuels have a much larger effect than renewable energy. Over 80% of CO₂ greenhouse emissions we generate are caused by fossil fuels, increasing the rate of global warming & climate change. Compared to clean energy sources, they have 0 global warming emissions. However, fossil fuels do not take up that much land whereas renewable energies do. It is stated that if we wanted to use all renewable energy to power the world, we would have to use the land size of Mexico. Thus, the environment is not enough land to do this sufficiently. This would mean that habitats would be lost which is crucial to other aspects such as the food chain or endangered species. In Brazil, a large Belo Monte hydroelectric

project flooded 2360 square kilometres & it only provided 250MW of power-generating capacity whereas a small 10MW run-of-the-river plant in a hilly location can use little as 2.5 acres. The large scale use of land for the hydroelectric reservoir destroyed forest, wildlife, agricultural land & reserve). Effects on environment

As seen in diagram 4, both fossil fuels & renewable energy will affect the



environment, but with renewable energy source being less destroying. In their own ways they both destroy the environment, but it is better to use renewable energy than fossil fuels.

From evaluating these different perspectives, it is clear that the use & production of fossil fuels when compared to renewable energy have its pros & cons. There is no ^{fair} easy way to see these types of energy to compare these energy types which is why environmental, social & economic perspective need to be weighed when making a decision.

QUESTION TWO

How significant is geographic location in influencing the geopolitics of global energy? Discuss.

Information to answer any question can be taken from any resource.

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PLANNING

supply + demand

how significant is location in influencing supply
& demand, strength, security

↓
power
dynamics

USA richer has more oil & natural gas

1: MEDC - LEDC

2: less use natural resources - reliance

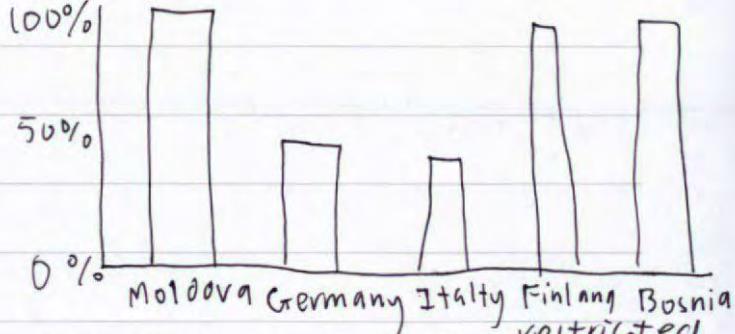
3: cost of living

disrupts balance

Begin your answer to **Question Two** here:

The geographic location influencing the geopolitics of global energy is a significant aspect that determines the success of a country. Countries with more access to energy sources ~~are better off~~ ^{are better off} make other countries reliant on them. This brings The location of energy sources are what breaks or creates balance in the world.

The most significant about geographic location in terms of the geopolitics of global energy is determining between ~~power economy~~ ^{power economy} ~~cost~~. As many European countries ^{program} that rely on Russia's gas seen in ⁵ diagram 5, Moldova, Finland & Bosnia mostly rely on it 100%. However, when the Russia-Ukraine war occurred in 2022, Europe's dependency on Russia's gas was ~~restricted~~ ^{restricted}. With 96% of Europe's gas imported from Russia, it was cheap & ~~afforded~~ affordable. At 17 countries in Europe had been restricted from Russia's gas supplies, triggering a 565% jump in gas prices. Many homes had no electricity, heat & power because of this. This shows how Russia had so much power & dominance over Europe's just due to its Gas. Furthermore, economy



Taiwan is another example of being subjected to another country's power. Due to Taiwan's geographical location, it has limited adequate river systems, solar power land & no domestic source of fossil fuel. Taiwan is a country that cannot generate any energy so it is totally dependent on imports for its energy requirements.

~~This means that Taiwan is very vulnerable to countries that they rely on as at any moment countries could increase the price~~

> In 2021, Taiwan relied on imports of fossil fuels for 97.7% of its total energy supply thus ~~any~~ Taiwan is very vulnerable. Taiwan relies most on the Middle East for its energy imports, so if there is any political instability in the Middle East, it would increase the price of imported fossil fuels & would damage Taiwan ~~economically~~ very much. Therefore, from these 2 case studies, ~~it is~~ we can see how the geographic location of countries either can make them powerful or weak ^{in terms of economy} due to their supply of energy & other's demand for it.

Another significant aspect of geographical location is how well certain renewable energy sources such as solar, wind, water can behave. As the world is trying to reduce fossil fuels & become more sustainable through using

geographical

renewable energy sources, it is the location of this is crucial to success of power generated. Since geopolitics "provides future-orientated insights" we are able to determine what locations around the world are better able to face renewable energy // - making a country more economically developed.

Another significant aspect that geographical location influences geopolitics is of global energy is defining LEDC & MEDC. The countries that are producing demanded energy sources earn more than makes them economically developed than those without.

In diagram 6 we can see that the Middle East

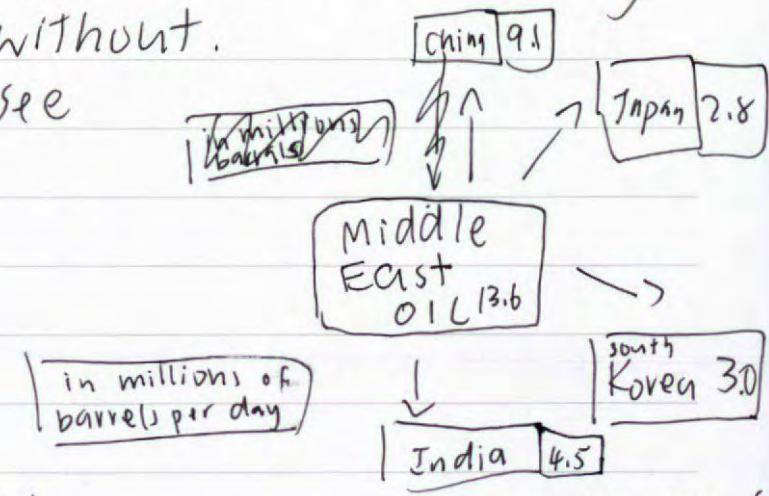


Diagram 6

India. This is because it

produces a $\frac{1}{4}$ of the world's oil supplies & holds between $\frac{2}{3}$ & $\frac{3}{4}$ of all known oil reserves. Thus, the US & the west as defined this region to be very important. In recent time, China has also expanded its presence in the Middle East as Chinese investments increased about 360%.

& construction engagement by 116%. Also Iraq benefits the most from this as it has received \$10.5 billion in construction contracts

& also received the most energy investments in 2021. From this we can see how the geographical location of a country can make it's country richer ~~and~~, meaning that it becomes more developed, giving it's people better livelihoods.

From the economy—the power of economies & developing a country, defined by geographical location, this shows that it is indeed very significant. Due to the world's demand on energy, countries that ~~can~~ supply this demand are the ones with more benefits and are ~~able to determine~~ able to shape our lives.

QUESTION THREE

The United Nations has stated that the energy sector is the source of around three-quarters of greenhouse gas emissions. Its Paris Agreement goals state that emissions need to be reduced by 45% by 2030 and reach net zero by 2050.

Discuss the likelihood of these goals being met across the globe.

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PLANNING

- promises ~ risks
weigh

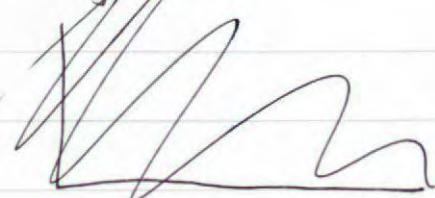
- economy
- Saudi Arabia

- effect - ha motivation

Begin your answer to **Question Three** here:

While we all hope to reach the goals of reducing emissions, the likelihood of reducing emissions by 45% by 2023 & reach a net zero by 2050 is almost a stretch due to current circumstances. With many factors affecting this goal such as economy, beliefs & motivation it is hard to truly determine if we can reach this goal.

As we all know the fossil fuels generate exponential wealth for many countries, this is one of the main reasons why it seems hard to reach our goal of a greener future. Fossil fuel ~~are~~ in Saudi Arabia make them rich & it is forecasted that they will make \$150 billion in revenue this year alone from oil. With such a grand amount of money that boosts their economy it is difficult to not rely on fossil fuels. Alongside this, many economies will suffer without cheap fossil fuel such as the growing populations in India that ~~will~~ increased its demand for fossil fuels by 982 million tonnes between 2017 & 2040 to meet with standards of living.



India's energy demand

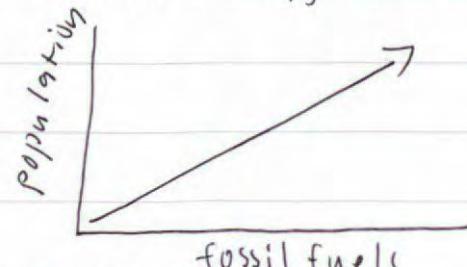


Diagram 7.

As seen in diagram 7, as India's population continues to grow, it demands more fossil fuels. In the "New York Times" it stated last year "Whether any climate change policy is both big enough to matter & popular enough to happen." This bluntly signals to us how the market for fossil fuels is too large & it many are too invested in it for them to consider reducing its effects. From this it seems that because of our economies being reliant upon fossil fuel imports & exports, it is very difficult to move away from them, meaning that the likelihood of meeting our goals across the globe is minimised due to this.

Another reason why our goal goals could not be met is due countries not taking full action on their promises. Many countries have adopted the saying, "too late, too little, too late" demonstrating that they believe that nothing will change what is happening. In Diagrams,

Countries meeting goals	
Yes	No
Kenya	Russia
Nigeria	Mexico

Canada
Japan
USA
Argentina

Diagram 8

We can see how there are very few countries meeting the Paris Agreement Goals when compared to the many countries not meeting the goal. This is contrast In Canada they have a +4°C projected achievement which is not good. This is likely due to their

broken promises as ~~in the~~ it did not meet the Rio de Janeiro target for the year 2000, extending it by 21% & its Kyoto 2010 target by 22%. With this average, it seems that Canada will also not meet the Paris Agreement like it states it will. In the US, broken promises with its intended goals can also be seen through ~~when~~ President Donald Trump was ~~in~~ elected. While was in office he withdrew the US from the Paris deal & had little ~~pen~~ penalties & this goes to show that other leaders around the world could do the same. Through these countries lies and false statements claiming to be more sustainable is pushing us farther away from our Paris Agreement goals. Thus, this makes our likelihood of reaching it also more unlikely.

However, through a more positive take on this subject, due to the more action taken by younger generations through the media, especially Gen-Z, more people are becoming aware of the detrimental & forever effects if we don't reach the Paris Agreement goal. One positive thing is that before the 2015 Paris summit, global emissions were on course to push temperatures up by 3.5°C by 2070/2000 but now that trajectory has flattened to 2.9°C . If we continue to follow this decrease

it is possible to reach the goal. As gen-z is taking it's spea As the younger generation is coming to age, we can see the effects of technology helping us to reach this goal. In the recent 2023 NZ elections, the Green Party had the highest amount of votes ever, & this is mainly due to the mass amount of ^{young} people ~~see~~ speaking up & voicing their opinions on how we need to change how we are producing greenhouse gases to do something about

our environment, on climate change. As more people are realising that it will soon much too late to make a difference, By having more petitions, more access to fossil fuels consequences on environment around the globe is sure to make a difference.

If we weigh the ~~the~~ factors, ^{made by countries} an economy, promises & our own determination it is sad to state that no, it is not likely for these goals to be met across the globe. While it is still important to note that some countries may reach their ^{own} goals, as a whole it seems quite, nearly impossible to reach the Paris Agreement Goal by 2050! This is due to many top contributing countries that are lacking in it's carbon emissions, lacking in effort progress

with reducing their ~~soy~~ ~~car~~ green use of fossil fuel) that contribute to global warming. Thus this means that we are still far from reaching the goal because our efforts to truly make a change are not good enough.

Scholarship

Subject: Geography

Standard: 93401

Total score: 17

Q	Score	Marker commentary
1	06	A clear introduction sets up the critical evaluation through perspectives (economic, social and environmental) of the use of fossil fuels vs alternative forms of energy. The candidate demonstrates evaluative skills. The essay had logical development and clarity of ideas. A wide range of evidence (majority from the resource booklet) is integrated to support the argument. A good use of original diagrams supports the argument.
2	06	Again, another clear introduction to set up the argument. The candidate demonstrates an understanding of the importance of geographic location in determining the accessibility to energy sources, which influences geopolitics. Effective original diagrams are used to support ideas. Critical thinking is demonstrated throughout the discussion. Integration of relevant resource booklet material throughout the response supports the argument.
3	05	This essay demonstrated clarity of ideas and logical development. The candidate created a well-balanced discussion on the context of the likelihood of the Paris Agreement goals being met. Both resource booklet evidence and outside knowledge are used effectively to support the argument. Critical thinking is evidence throughout. Two simple diagrams are used to support the answer.