

Forum: Economic and Social Council

Issue: Increasing international access to renewable resources

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Position: President of the Economic and Social Council

PERSONAL INTRODUCTION

Dear delegates of the Economic and Social Council:

It is with great honour that we welcome you to the second ever QEGS MUN conference. My name is Faith James-Blay and I am head chair of the ECOSOC council. At A-level I study: Art, History, and Government and Politics at QE, but I volunteered to chair this council because I have an interest in improving the environment and building a sustainable future.

In this study guide the concept of improving the sustainability of energy across the globe and the distribution of these resources will be discussed. My background in MUN comes from the first conference held here at QE last year, before that I had never even heard of it! I was new to the school, took politics and Mr Finn-Kelcey said that I should try it, so I signed up as a delegate and had a great time. At the start I had no idea what I was doing, but by the end of the event I felt like I knew enough to throw myself into it and get stuck in the debate- so don't be daunted if you've never done MUN before. This year I'm coming back as a chair and hopefully the conference will be as good as it was last year.

This topic guide should not be your only form of research, instead it is more of a starting point for further research that you and your delegation can look into in varying detail. Thus it is imperative that you and your delegation do further research to fully embrace debate during the conference.

If you have any questions about the information in this study guide, good sites to look into or about the conference in general please feel free to contact me at q4296@queenelizabeths.kent.sch.uk.

Yours sincerely,

Faith James-Blay.



TOPIC INTRODUCTION

Increasing international access to renewable resources is necessary to reduce global use of fossil fuels, a major contributor to climate change and global warming, before damage to the environment becomes irreparable.

Discussions on this topic will include assessing different forms of renewable resources as well as the implementation in various locations worldwide considering factors such as cost effectiveness or the climate of the area. Different countries already have varied success in the installation of renewable energy and will have varied opinions and success on further instalments. In the words of the Secretary-General, “renewables are the only path to real energy security, stable power prices and sustainable employment opportunities.”

DEFINITION OF KEY TERMS

Wind Power

Wind power is a clean or renewable energy source. Wind farms use technology that is useful for grid interconnection, and they don't take up as much space as solar farms because in between turbines the land can be used for other purposes such as agriculture, or alternatively they can be built offshore. Wind Power farms are not always located near densely populated areas, and further power has to travel the higher the loss is, thus it might not be the most efficient method. In 2020, wind supplied almost 1600 TWh of electricity, which was over 5% of worldwide electrical generation and about 2% of energy consumption.

Solar Power

Solar power is a clean or renewable energy source that is generated from the sun in the form of either heat or electricity. Solar energy has been used by humans as early as the 7th c BC who reflected the heat from the sun off of reflective objects to make fire. Solar cells were first designed by Russell Ohl in 1939 and then first made into solar panels in 1954. Their first significant commercial growth was seen between 2008 and 2013. Solar power can be generated even on cloudy days and can be generated as long as there is some form of daylight hitting its surface- although the rate at which it collects power reduces when light levels are lower. Thus it is somewhat unreliable in areas with less sunlight.

Raw materials

Raw materials are the input goods or inventory that a company needs to manufacture its products, usually this means the unrefined materials from the earth e.g. metals/corn in the context of energy. Raw materials are required to build the resources that generate renewable electricity such as turbines or solar panels.



SDG Summit

A response to the impact of multiple and interlocking crises facing the world, providing political guidance on transformative and accelerated actions towards the target year of 2030. On the 1st of January 2016, 17 SDGs (Sustainable Action Goals) officially came into effect after being adopted in September 2015. Affordable and clean energy is goal #7.

Fossil fuel subsidies

Subsidies are a way for government bodies to ensure that the price of a commodity or service (in this case non-renewable resources such as Petrol) is low. According to the IEA global fossil fuel consumption subsidies doubled from the previous year to an all-time high of USD 1 trillion in 2022.

International Monetary Fund (IMF)

The IMF has 3 main goals: furthering international monetary cooperation, encouraging the expansion of trade and economic growth, and discouraging policies that would harm prosperity. The IMF is an organisation of 190 member countries aiming to foster prosperity and growth, doing so by supporting economic policies that promote financial stability and monetary cooperation, which are essential to increase productivity, job creation, and economic well-being.

Renewable Resources

A renewable resource is an energy source that is infinite, for example sources such as wind, solar or tidal energy.

Non- Hydro renewables

A non-hydro renewable is any renewable resource that that is not from hydropower. This term is important because 20 years ago hydropower was the most prevalent renewable energy source, accounting for more than 3x the amount of non-hydro renewable energy in the USA. As technologies have improved the focus within renewable infrastructure has moved from hydropower to solar and wind power. October 2012 was the first month non-hydro overtook and now non-hydro is steadily ahead.

Primary energy

Primary energy means energy before it has been converted into other forms of energy like electricity, heat or transport fuels. Think of this as inputs into an energy system: coal, oil or gas before we burn them; or solar or wind energy before we convert them to electricity.



Market entry

Entering a new product into an already existing market; for example inputting renewable energy into the energy market that is inundated with non-renewables that have enough funding to sell at competitive prices.

- **Capital Costs** → Capital costs are one-time expenses paid for things used in the production of goods or services for example in the construction of wind turbines.
- **Not in my backyard syndrome**→ The idea that many people support the implementation of renewable energy farms but they don't want them in their own areas. Those who complain vary from individuals worried about the ruination of landscape to environmental groups fearing for the safety of wildlife.
- **Energy poverty**→ The definition of energy poverty in itself can be cause for debate, it is defined by the EU as 'a situation in which households are unable to access essential energy services and products.' However there are other varying definitions; The World Economic Forum defines energy poverty as: "The lack of access to sustainable modern energy services and products, the inability to cover basic energy costs to keep homes adequately warm, cook food and have light, or if household energy costs are above 10% of disposable income, transport fuels not included." It is also important to consider that some areas do not have energy infrastructure for reasons such as religion or a refusal to abandon traditional lifestyles in pursuit of a modern lifestyle. Lack of energy does not equate to energy poverty.
- **United Nations Framework Convention on Climate Change** → In 2018, the UN climate change secretariat undertook an evaluation of the organisation, structure and use of resources in order to determine how it could best support the needs of Parties and non-Party stakeholders as well as promoting inclusivity. As a result of this, the secretariat launched mass organisational change in 2019 of which the UNFCCC is a product of.

BACKGROUND INFORMATION

In order to debate access to renewable energy, an understanding of renewable energy and how it is produced is required. **Wind Power** and **Solar Power** are currently the most widely used forms of renewable energy; however other forms such as: Biomass, Nuclear power, Hydropower, Geothermal power and Hydroelectricity should be noted. The realisation that fossil fuels are a huge contributor to climate change and global warming came in the 1950s/60s and this is how percentage use of renewable energy has changed since then:

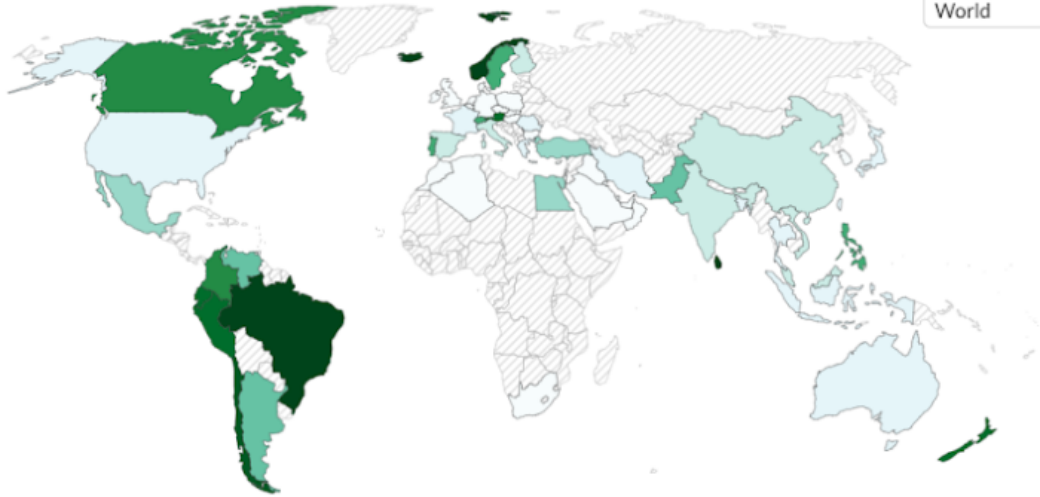
Contents

Share of electricity production from renewables, 1985

Renewables include electricity production from hydropower, solar, wind, biomass & waste, geothermal, wave, and tidal sources.

Our World
in Data

World



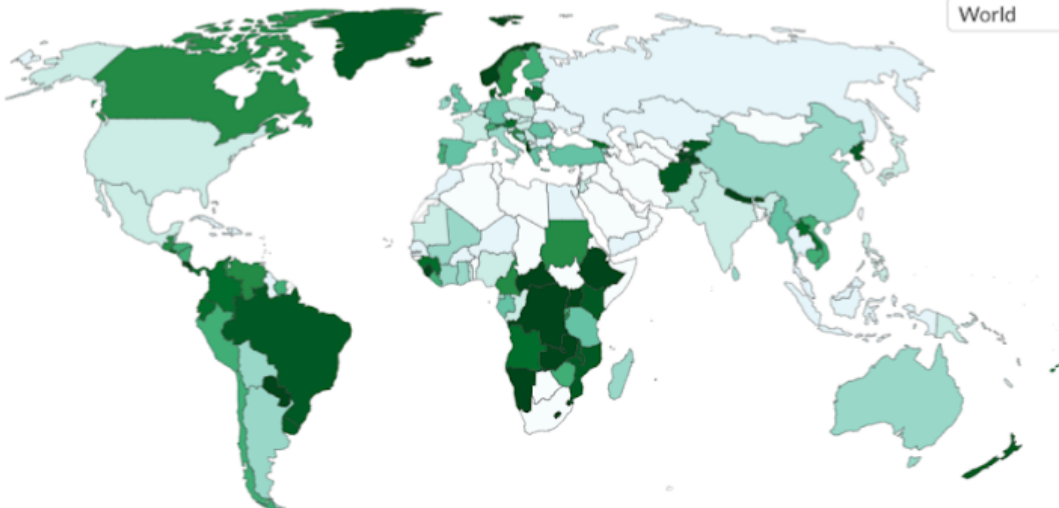
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Share of electricity production from renewables, 2022

Renewables include electricity production from hydropower, solar, wind, biomass & waste, geothermal, wave, and tidal sources.

Our World
in Data

World



No data 0% 10% 20% 30% 40% 50% 60% 70% 80% 90%

Source: Our World in Data based on BP Statistical Review of World Energy (2022); Ember; Our World in Data based on Ember's European Electricity Review (2022).
OurWorldInData.org/energy • CC BY

Currently, the stance of the UN is to encourage countries to pool their resources in the forms of: **raw materials**, technologies, research and education of future workers as well as emphasising the importance of quick and efficient work and Nationally Determined Contributions countries' individual climate action plans- for example the UK's Net Zero Strategy (Build Back Greener) that was published on the 19th of October 2021 and updated in April 2022. It set out policies and proposals for decarbonising all sectors of the UK economy "to meet the Government's net zero target by 2050. to cut emissions and adapt to climate impacts, must set 1.5C aligned renewable energy targets and the share of renewables in global electricity generation must increase from today's 29 percent to 60 percent by 2030."

The United Nations convened the **SDG Summit** on the 18th-19th September 2023, during the General Assembly High-Level Week, in which it was said that "Being half way through the 2030 agenda for sustainable development, world leaders must now review the state of the 17 **SDGs**, and provide political guidance on how to proceed."

Fossil-fuel subsidies are one of the biggest financial barriers hampering the world's shift to renewable energy. The **International Monetary Fund** (or IMF) says that about \$5.9 trillion were spent on subsidising the fossil fuel industry in 2020 alone (environmental damages were not priced into the cost of fossil fuels.) That's roughly \$11 billion spent in each single day. It also states that across developing countries public spending on fossil fuels only benefits approximately the richest 20%. The current position of the UN on subsidies is that fossil fuel subsidies should be shifted to renewable energy, theorising that it would not only help the installation of **renewable resources** as the global primary energy source, but would also create jobs and be an enormous contributor to sustainable economic growth. There is also a lack of organisations supporting renewable energy over traditional energy, lowering investment even further.

The Russo-Ukrainian war has had a huge impact on the world's fossil fuels. Particularly affected are subsidies: as governments tried desperately to prevent prices from skyrocketing, fossil fuel subsidies became even more invested on a worldwide scale- a massive contributor to their doubling in 2022 given that Russia held a massive 14% of the world's energy supply hand, being the 3rd biggest oil supplier in the world. The governmental fear was that there would be a shortage of energy in light of the war and political boycott of Russia's oil supply. This inadvertently highlighted the fact that if other states were more self-reliant in their energy through, for example, the use of renewable energy, they can have a lot more independence, choice and not be at the mercy of other states. Examples of this include countries like Iceland that produce the majority of their own energy, meanwhile countries like Germany relied on Russia for 50% of their energy supply, thus suffering hugely because of the war!

Currently, 85% of primary energy demand is met by conventional fossil fuel combustion and in the short term it would be very expensive to replace the infrastructure used to provide this. However, it should be considered that, in the long term, renewable energy is cheaper and even now renewable energy production and maintenance costs are lowering gradually. Unfortunately it is not enough progress to implement renewable energy production in the long term as the climate crisis evolves. It is imperative that action is taken imminently, thus access needs to be expanded upon on an international scale, whilst somehow avoiding reliance on other countries' resources.

Market entry holds a lot of power over the increased use of renewable energy as traditional energy sources have a much stronger grip over the market and, although renewable energy technologies such as solar and wind power are minimally expensive and require little maintenance, the **capital costs** are still relatively high for independent bodies. This creates difficulty around the construction of these energy farms, and furthermore these farms for renewable energy take up a lot more space than fossil fuel-based energy generation plants do. Investors are also often put off by the lack of evidence that shows that these farms will produce enough energy to turn a profit, with further concerns such as how much energy will be produced during periods of lower light or wind, as these technologies aren't as reliable in production or in finance as fossil fuels. Some renewable energy companies have called for government investment in the form of research and development loan assistance to promote both the development of technologies as well as private investment and communication between those bodies.

Renewable energy is still a fairly new field, so there is a huge lack of experts who are needed for every element: from designing to building to maintaining renewable plants, which simply cannot exist without the necessary skilled workers.

Renewable energy in developing countries

Renewable energy technology was once seen as unaffordable for most developing countries. However, “since 2015, investment in **non-hydro renewable energy** has been higher in developing countries than that of developed countries, and comprised 54% of global renewable energy investment in 2019. The International Energy Agency forecasts that renewable energy will provide the majority of energy supply growth through 2030 in Africa and Central and South America, and 42% of supply growth in China” - a current fossil fuel giant. But to do this as soon as possible to meet climate and sustainability goals, it might be that support from more developed countries is necessary.

Developing countries are also in a unique position in that as they develop and input energy systems, they can do so with the knowledge and research that has come from the misuse of fossil fuels and other non-renewable energy sources, being able to use renewable sources without having to adapt previous systems as much as countries with long histories of fossil fuel use. As of 2019, Kenya was the world's leader in the number of solar energy systems per capita, with more than 30,000 PVs sold each year. This has since been overtaken in terms of numbers, but it should still be noted that less developed countries have the ability to invest and produce these technologies. These countries can utilise the inputting and running of renewable power plants, simultaneously creating more jobs and alleviating poverty.

Energy poverty

Energy poverty in developing countries, whilst affecting the whole state, is usually significantly worse in rural areas that already lack strong or stable infrastructure, being unable to stretch across sparsely populated -and often lower income- areas. For example, in especially rural areas it is much more economically viable to have off grid renewable energy than electricity grid extensions or diesel generators that would otherwise be used in these areas. Given the economic benefits of renewable energy in many areas within developing countries, it might seem out of the question to use fossil fuels! However, fossil fuels carry equally if not more economic viability, and certain countries like

Russia, India and Indonesia and Brazil all generate a significant portion of government revenue through the selling of fossil fuels. Is it not also hypocritical of larger countries, who have used fossil fuels for hundreds of years, to instruct smaller developing countries not to follow in their steps?

The Effects of the Pandemic

Due to the Covid-19 pandemic, there was a huge decline in the use of non-renewable energy alongside a 7% increase in electricity generation throughout the pandemic. However, priority access to the grid and outstanding contracts in renewable plants were able to flourish through the pandemic despite the lower energy needs that came about due to global lockdowns, allowing the share of renewables in global electricity generation to jump to 29% in 2020- up from 27% in 2019. Use of biofuels also increased by 3 % but was largely offset by the decline in the use of oil.

MAJOR COUNTRIES AND ORGANISATIONS

Iceland

Iceland is the leading country in terms of percentage use of renewable energy, with almost 100% of its energy coming from renewable sources. Iceland primarily uses geothermal and hydropower, making use of the 32 volcanoes on the island.

Norway

Norway uses hydropower more than any other country in the world, producing a total of 45% of its power through it. Norway utilises its huge amounts of mountains or valley rivers and lakes, as well as its high levels of rainfall- which have been amplified due to global warming.

Brazil

Brazil has the second highest percentage use of renewables which accounts for 32% of its energy consumption as of 2021, however 8% of its government revenue is generated through fossil fuels. However, this statistic is misleading as the majority of the energy is generated from burning biomass (plants or trees), which releases high amounts of carbon dioxide into the atmosphere and decreases biodiversity.

China

Whilst being the world's largest carbon emitter, China still manages to be the leading world resource for wind and solar power (and one of its biggest investors). China aims to have $\frac{1}{3}$ of its energy supplied by renewable sources and, being one of the largest states in the world, this will make a huge difference to carbon emissions from energy consumption worldwide. However, in just the first half of

2023, China bought \$30 billion worth of oil from Russia, inadvertently supporting Russia through the consumption of fossil fuels as several other countries have and are still doing.

Russia

Before the Russo-Ukrainian war broke out, 34% of Russia's government revenue was generated through the trading of fossil fuels, and many states relied hugely on Russia's supplies for their energy needs, however since the outbreak of the war, many countries have sanctioned Russian oil trading, facing extremely high energy prices and national shortages.

The EU

Currently, two or more EU member states can join together to fund an energy project involving electricity or heating in order to help achieve its energy goals (this can be done with non-member states, but energy must flow through the EU country directly in order for it to count towards energy goals.) These projects can but do not have to involve energy being transferred physically from one country to the other.

PREVIOUS ATTEMPTS TO SOLVE THE ISSUE

- **Incentives** → Incentives targeted at renewable energy promotion can be divided into two main groups: financial which include reverse auctions, tax policies, and net metering and regulatory, consisting of establishing clean energy standards, cap and trade, and carbon pricing. These function the most efficiently in combination.
- **Kyoto Protocol in 1997** → Hailed as the first major international climate change treaty, this protocol put the **United Nations Framework Convention on Climate Change** into action; "the Kyoto Protocol sets binding emission reduction targets for 37 industrialised countries and economies in transition and the European Union. Overall, these targets add up to an average 5 per cent emission reduction compared to 1990 levels over the five year period 2008–2012". The Kyoto protocol established the flexible market mechanisms based around emissions permits and member states should meet their target primarily through national measures. They can also meet these requirements through International Emissions Trading, Clean Development Mechanism (CDM) and Joint implementation (JI)
- **COP26** → COP stands for conference of parties. COP is a UN body that meets yearly to discuss the progress or difficulties of climate change, with the overarching goal of keeping global warming below 1.5°C, falling in line with scientific recommendations. COP26's main objectives were to: "commit to more ambitious targets, reduce greenhouse gas emissions by 2030, discuss measures to adapt to the inevitable impacts of climate change, and increase funding for climate action- in particular for developing countries".
- **Glasgow climate Pact** → A pact resulting from the 2021 UN climate change conference that emphasises the phasing out of fossil fuel subsidies and the use of unabated coal products.

POSSIBLE SOLUTIONS

Due to the fact that there is not yet enough renewable energy for countries to fully or mostly power their own countries, there is very limited renewable energy sharing at current. Therefore it stands to reason that the future is one in which countries share and provide funding into research for renewable energy sources. However, a lot of countries might not want to become reliant on each other when it comes to energy, as the result of this reliance has been felt in the energy crisis caused by the Russo-Ukrainian war. However, one of the main ways of development is by increasing international reliance, yet monitoring it. Some solutions to the lack of use and accessibility of renewable resources are:

- Increasing access, so that 100% of the world has access to renewable energy, as 13% of the world currently does not.
- Levelling out the Worldwide percentage as currently individual states have renewable sourced energy percentages ranging from 0% to the high nineties and the aim should be above 50% globally.
- When countries begin to achieve 100% renewable energy, efforts should be made to import renewable energy over using conventional fossil fuels that can be sourced within a state in order to take real action against global warming and climate change.

These aims could be achieved by...

- Sharing research and technologies to further the development and deployment of renewable energy. However, this could rely on international trade being open. Furthermore, the funds behind the research could be difficult to find due to a lot of governments and private investors investing little in renewable energy, as opposed to the huge economies and companies built on the trade of fossil fuels.
- Replacing fossil fuel subsidies with subsidies for renewable energy. Currently, many governments give subsidies to corporations that collect and distribute non-renewable energy sources. In theory, these subsidies make energy cheaper, however governments worldwide have invested trillions of dollars into the fossil fuel industry, and if these were directed to renewable sources of energy, it could make green energy that is now seen as expensive and inefficient widely available and cheaper.
- Encouraging states to place taxes on the use of fossil fuels. This could mean two things: either this would entail placing higher taxes on oil or gas companies, or alternatively the citizens that use the fossil fuels would pay extra in order to use them. However, with fossil fuels being incredibly expensive, this could affect the poorer members of the world, and potentially damage entire countries that are already suffering in the aftermath of the Russo-ukrainian war.

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