



CalsMUN 2019
Future Technology

Research Report

Forum: UNCSTD

Issue: The development of sustainable energy sources

Chairs: Murrion Rison and Lora Lagerweij



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Personal Introduction

Murrion Rison

Dear delegates,

It is with great delight that I may host you as a chair on the conference that once got me started in the wonderful world of Model United Nations. Some time has past since my first MUN and since then I have been fortunate enough to travel for a MUN to Rome! Matching my transition from high school to university, I also started doing university MUN's. As of now I am busy spending my time learning about the human mind and its ways in a bachelor Psychology at the university of Utrecht. Besides that I enjoy a good get together with friends, going to the movies and visiting museums.

CalsMUN has kept a special place in my heart. Not only is the first MUN that I attended, but I also got fortunate enough to be part of the organizing committee in 2018 as the head of press. (The CalsMUN website that you all can enjoy has sprouted from my deputy's and my creativity. I am very proud of it) So I am very grateful to return to this wonderful conference. MUN is a place to learn, grow and socialize and I hope that is what you all will be doing in the upcoming weekend.

sincerely,

Murrion Rison, chair of the United Nations Commission on Science and Technology for Development.





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Lora Lagerweij

Dear delegates,

My name is Lora and I live in Heemstede in the Netherlands. I'm 15 years old and have been doing MUN conferences for nearly two years now. I've been to six MUN's as a delegate which I enjoyed a lot. This will be my first time chairing and I'm very excited for it. I can't wait to meet you all and debate about the interesting issues of this committee. Good luck preparing!

sincerely,
Lora lagerweij



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Introduction

With the rise of global warming the search for alternate sustainable energy sources can be seen as the most important task for mankind. As of now the use of fossil fuels (coal, oil and gas) is the main mean of obtaining energy, but is also one of the main submitters of greenhouse gasses (Ritchie H. & Roser M., 2018). The negative effects of a rise in greenhouse gasses are shared all over the world, with the ice caps melting, a loss of flora and fauna and climate change.

Considering initiatives like the Paris Agreement (2015) and the Millennium Development Goals (2000) (MDG's) the United Nations as already taken steps forward in building a better future. However, more needs to be done.

There are still member states that are falling behind in meeting the set goals. Current renewable alternatives are not implemented yet, are too expensive to maintain or are not suitable for every climate (United Nations Development Programme, 2015). With climate being a highly urgent issue, quick thinking is required in order to energy production from unrenowable to renewable.

Definition of Key Terms

Renewable energy

“Renewable energy, often referred to as clean energy, comes from natural sources or processes that are constantly replenished.” (NRDC, 2018) It is to be noted that many definitions do not include nuclear energy as a source of renewable energy, but can be considered as one.

Greenhouse gases

“Gases that trap heat in the atmosphere are called greenhouse gases.” (United States Environmental Protection Agency, 2018). Gases such as methane, nitrous oxide and most importantly carbon dioxide. These gases trap the heat in the atmosphere and therefore contribute to global warming. Considering that Carbon dioxide get released by burning fossil fuels it is of more importance for the matter discussed, but the emission of other gasses should not be ignored.



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Fossil fuels

“Fossil fuels are hydrocarbons, primarily coal, fuel oil or natural gas, formed from the remains of dead plants and animals.” (ScienceDaily, 2018) In order to use Fossil fuels, one has to burn them. By burning fossil fuels, carbon dioxide gets released, thereby adding to global warming.

General Overview

“Global climate is projected to continue to change over this century and beyond. The magnitude of climate change beyond the next few decades depends primarily on the amount of heat-trapping gases emitted globally, and how sensitive the Earth’s climate is to those emissions.” (NASA, 2018). As stated by NASA our future heavily depends on our greenhouse emission. However, we also depend heavily on our energy in order to advance as a species.

We use fossil fuels for transport, the formation of plastic and health etc, so it is hard to cut down on using energy entirely.

The alternative to fossil fuels is renewable energy. The use of renewable energy must be encouraged in order to lower the threat that fossil fuels are providing the world.

Obstacles are preventing the world from changing to renewable energy sources. Due to the lack of technology and high production costs, these renewables are still averagely more expensive than fossil fuels and thus is not readily available. However, there are also member states that invest in fossil fuels or that house big companies that earn from fossil fuels. So switching towards renewable energy means changing their entire economy.

Major Parties Involved

Organisations

United Nations Framework Convention on Climate Change

“The UNFCCC secretariat (UN Climate Change) was established in 1992 when countries adopted the United Nations Framework Convention on Climate Change (UNFCCC).

With the subsequent adoption of the Kyoto Protocol in 1997 and the Paris Agreement in



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2015, Parties to these three agreements have progressively reaffirmed the secretariat's role as the United Nations entity tasked with supporting the global response to the threat of climate change." (United Nations Framework Convention on Climate Change, 2018)

Countries

United States of America

"Most of the nitrogen oxides released in the U.S. due to human activity are from the burning of fossil fuels associated with transportation and industry." (EPA, 2017)

In 2017, 80% of United States energy supply came from fossil fuels (Yale Environment 360, 2018), which puts them at 51 on the list of highest fossil fuel consumption (IEA Statistics, 2014). Besides being one of the biggest fossil fuel consumers, the United States is also one of the biggest producers of oil (Ritchie H. & Roser M., 2018). Due to the high demand in the member state itself, the production of oil continues. Considering President Trump's decision to leave the Paris Agreement by 2020 (The New York Times, 2017), the United States transitioning to renewable energy does not seem like a possibility in the near future.

Saudi Arabia

The crude oil production of Saudi Arabia reached an all-time high in November 2018, with 11093 thousand of barrels of oil a day (Trading economics, 2018). With an estimate value of petroleum exports of 159,742 million dollars (Organisation of the petroleum exporting countries, 2017), Saudi Arabia thrives from their oil reserves. In January of 2018 Saudi Arabia announced that they would invest at least 7 billion dollars into renewable energy. (Climate Action, 2018). Having taken the country's solar potential in mind, Saudi Arabia aims for renewable energy in order to boost their oil export. If they decrease their own oil consumption, there would be more left to sell.

Timeline of Key Events

Date	Description of Event
1957	The first commercial electricity-generating power plant by nuclear energy, located in Shippingport, Pennsylvania.



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1954	Bell Laboratories produces the first silicon solar cell
1960	Establishment of the Organisation of the Petroleum Exporting Countries (OPEC)
1986	Chernobyl nuclear disaster
1992	UNFCCC adopted in UN headquarters in New York
1997	Kyoto Protocol was adopted
2007	IPCC releases the "Climate Change 2007: Synthesis report", Confirming climate change is happening and mostly human-caused
2011	Fukushima nuclear disaster
2014	UN Secretary-General Ban Ki-moon hosts climate summit
2015	The UNFCCC Paris Agreement was adopted
2017	The United States, under President Trump, decides to leave the Paris Agreement

Previous Attempts to Resolve the Issue

As previously mentioned several agreements/protocols have been adopted (Kyoto Protocol, Paris Agreement, Millennium Goals), these have been big steps towards unifying the world in the fight against climate change. In these agreements/protocols the use of fossil fuels and the change towards renewable energy have been mentioned, all in order to cut down on global warming.

However, this is not the only solution. Many member states have taken matters into their own hands and are changing towards renewable source of energy. Member states can also choose to implement carbon taxes, subsidies for using renewable energy or research in renewable energy or banning certain products that use fossil fuels.

Possible Solutions

As mentioned, the main priority should be moving from current fossil fuels to alternative energy sources that are renewable (such as but not limited to; solar, hydro, wind and nuclear). This should be considered on a national level as well as an international level.

Governments may have to provide subsidies or implement different taxes in order to encourage a national economy to move from one source to another. Carbon taxes also present an environmental solution to consider.



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Internationally, countries should try to join as many international climate movements as possible in order to exchange ideas and renewable technologies. Free trade regions might benefit in the area of renewable energy.

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