

SAIMUN 2017 Research Report

Committee: Environmental Commission

Issue: Creating a framework for the stability and the sustenance of fossil fuels and the transition into renewable energy

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1. Description of Issue

The globalised world full of advanced technology has made the world so interconnected that the energy industry is the biggest contributor of the climate change. This not only affects a single country but also have far wider implications. The growing awareness of the security of energy supply and climate change problems associated with fossil fuels have caused countries around the globe to find alternative energy resources that can replace these fossil fuels and the dangers they possess. Renewable energy is classified as energy produced from a natural source with no harm to our planet. Various regimes have been put into place to implement the usage of renewable energy to meet global energy standards for the sustainable future. Since excessive incineration of fossil fuels worldwide is a major factor that contributes to global warming, renewable energy has been attracting attention over the past years as an energy solution towards energy stability. A large percentage of private sector firms are now devoting their financial resources to develop renewable energy.

Moreover, as the world population continues to rise, the demand for fossil fuels is increasing as well. However, as the amount of fossil fuels is limited, it is obvious that it will eventually become depleted. This could potentially create a chain effect, as recent studies show that oil may only last about 20 years with the current rate of consumption, causing oil prices to skyrocket, possibly resulting in an international economic crisis. Another chain effect is CO₂ emissions as its projection for the upcoming years is catastrophic. If the burning of fossil fuels is not under control, CO₂ pollution could increase vividly in the next 20 years. These possible effects are currently raising awareness of the potential harm that fossil fuels may bring and dragging our focus on renewable energy sources. The conversion of the Earth's natural resources such as wind, water, heat and nuclear power could be the main source of energy for the cleaner future. Living in the 21st century, a technology enhanced generation, we have the opportunity to utilize our natural environment to provide energy services that are more efficient than fossil fuels, light years ahead of future generations. Nations must strive together to make a unilateral movement in order to create universal policies to avoid any form of economic crisis or other negative consequences.

2. Definition of Key Terms

Renewable Energy

Renewable energy is classified as a type of energy that is directly regenerated and derived from a natural source over a short time scale. Renewable energy resources include solar energy, tidal power, wind power, wave power, hydropower, geothermal and more. They are environmentally friendly and are mostly used to generate electricity, which is an essential form of energy in the 21st century. Modern interest regarding renewable energy suggests its effectivity in preventing the excessive use of fossil fuels and other negative environmental consequences.

Fossil Fuels

Fossil fuels are structured from hydrocarbons and are divisions of various coals, fuels or natural gases. They are configured from the remains of expired animals and dead plants. The widespread use of fossil fuels has revolutionized the industrial development. Fossil fuels are converted into the form of energy through exposure to high amount of heat and pressure. However, the negative consequence to its utilization is its large contribution towards carbon dioxide emission in the Earth's atmosphere, which plays a major role in global warming.

Energy Conversion

Energy conversion is the transformation of one type of energy to another. Many systems of energy conversion involve complex systems to transform raw energy into usable electricity power. However, any type of energy conversion will always lose a degree of energy in the environment, and thus, no matter how complex the system structure of a mechanism is, no form of transformation will attain full efficiency. This is because energy is lost in any type of transfiguration as the heat escapes in one form or the other.

Kyoto Protocol

The Kyoto Protocol is an international consensus, which was adopted in Kyoto, Japan in 1997 associated with the United Nations Framework conventions on Climate change. This pledged to set goals to reduce carbon dioxide emission rates in each nation. Acknowledging that many developed nations are primarily responsible of the high levels of carbon emissions due to their industrial activities, the protocol consists of stricter measures for developed nations to abide by international energy production standards. By decreasing their collective emissions, industrialized nations aim to decrease overall emissions that contribute to global warming, including methane and carbon dioxide.

International Renewable Energy Agency (IRENA)

The International Renewable Energy Agency or IRENA stands to make an impact in world energy solutions by introducing renewable energy as a means of achieving sustainable future rather than a financial burden. By providing a range of services, IRENA seeks to develop new innovative strategies that will enhance global communication regarding the effectiveness of renewable energy. It wholeheartedly supports the concept of knowledge sharing, policy

enrichment and expanding technological and scientific boundaries for innovation. With various partners, international, intergovernmental and non-governmental organizations working behind them, they aim to promote global communication in advancing towards the adoption of renewable energy and energy stability of fossil fuels.

3. Timeline of Key Events

Event	Description
<p>1968 - The international conference on the biosphere in Paris, organized by UNESCO. The issue discussed was the rational use and conservation of resources of the biosphere.</p>	<p>The outcome of the conference was the MAB program (Man and Biosphere). MAB aimed to improve the relationship between man and the environment. Based on this aim, it contributed in reducing the loss of biodiversity through rigorous research regimes.</p>
<p>5th June 1972 – Declaration of the United Nations Conference on the Human Environment in Stockholm, Sweden.</p>	<p>Their plans were to solve the issue through global communication, as they believed that the environmental pollution is a universal problem and collaboration is the key in solving such issue. Thus, the UNEP was formed.</p>
<p>1979 – World climate conference set up by the UNEP, FAO, UNESCO and WHO.</p>	<p>The conference was held to assess the state of research on the climate change and carbon emission levels due to fossil fuels. It called all governments to foreshadow the events of climate change caused by our actions. The conference also produced an action plan for the world climate program that would enable the safe use of energy without any harmful emissions. The program went under the directory of the United Nations Environment Program (UNEP), the World Meteorological Organization (WMO), and the International Council of Scientific Unions (ICSU)</p>
<p>December 1997 – The Kyoto Protocol was put into place.</p>	<p>The Kyoto Protocol was set to ensure safe industrial operations and energy production.</p>

	<p>It successfully amended the United Nations Framework conventions on Climate change, which all parties pledged to abide by an international strict code setting goals to reduce emission rates in respective nations. By setting targets for nations to decrease their emission rates, it put pressure on them to take an action and solve the problem at hand.</p>
<p>23rd April 2009 – Renewable Energy Directive by the EU members.</p>	<p>The topic was the promotion of the usage of renewable energy. Member nations sent their own action plans with specific targets to other nations. These action plans included implementation measures.</p>

4. Positions of Key Member Nations and Other Bodies on the Issue

UNEP (United Nations Environmental Program)

The UNEP was founded in 1972 as a representative of our environment affiliated to the United Nations. Since then, the UNEP has mediated discussions, panels, summits and hosted programs to advocate clean energy and the transition into a renewable future. However, their main aim is to assess national and international conditions and anomalies, produce environmental tools for both national and global use and to reinforce various institutions and organizations for the care and maintenance of the environment. They host many initiatives such as the global efficient lighting forum that took place recently on November 11th 2014 discussing the issue of transition into energy efficient lighting products all over the world.

Japan

In 2012 the Japanese government decided to phase out nuclear power by 2030 or 2040 by the latest. The government terminated all work on plants and industries producing nuclear materials to achieve her parliament’s goal. However, within couple of days, the government retracted his harsh statement of a nuclear phase out after he was pushed by the industry to keep operations active. Many workers in the industry urged the government body to reconsider their decision along with theorists. They returned, allowing operations to continue with the interest of enhancing energy capabilities in Japan. The argument the government faced when they were up against the industrial workers was that it would place a heavy financial burden on the Japanese economy by causing oil, gas and coal prices to inflate. This persuaded the parliament to begin the transition into a renewable more sustainable nation.

IEA (International Energy Agency)

The International Energy Agency (IEA) works to certify sustainable energy. The IAE consists of 29 member nations working towards their solidarity. The four key areas, which the IEA focuses on, are economic development, energy security, worldwide engagement and environmental awareness. When the IEA was first inaugurated, it introduced a new view in energy solutions. As it was formed in correlation to the 1973 oil crisis, the IEA was instated to assist nations coordinate mutual response to major disruptions in oil supply by discharging emergency oil stocks into the market. Since then the IEA has flourished, facilitating global communications on energy production and providing advice for cleaner and more sustainable energy towards all member nations. One of the areas the IEA have tackled over the past few years are endorsing diversity and efficiency within all mediums of energy production and industries. Ensuring the stable and supply of both renewable and non-renewable energy to member nations along with their continuous support to free markets to enhance economies and reduce energy deficiency, the IEA have raised awareness in the global community and suggested solutions to tackle the ongoing issue of climate change. Lastly, they work in collaboration with many nations that are not part of them, who are large contributors or producers, to discuss environmental consequences and energy solutions.

UN-Energy

The world summit on sustainable development that was held in Johannesburg showed all the representatives that the issues of poverty, access to energy, climate change and energy security are all linked to one another that requires coordination and communication of the developing global community. The UN energy was set up in response to demand for unilateral body for communication and coordination purposes. It was inaugurated in 2004, to help ensure the coherence of knowledge spreading at the world summit on sustainable development and to support countries to implement policies to transition into sustainable energy. UN energy then began providing energy systems collaboration to promote consistent approach. The UN does not have a single entity solely for the purpose of managing energy, and thus UN energy seeks to share information and implement measures for energy coordination. UN energy works closely with other UN organizations to accelerate the transition into renewable energy.

5. Suggested Solutions

Renewable energy sources can be a solution by itself. They help reduce pollution and are much more efficient than the burning of fossil fuels. Renewable sources produce high amounts of energy reliably and efficiently while not causing any harm to the environment. More and more nations are trying hard to adopt renewable technology to both reduce their carbon emissions and provide sustainable energy. The only problem of usage of renewable energy may be their high cost. Since many developing countries are unable to afford such technologies, organizations such as the IEA could provide them the technology and support payment in installations.

The world must eliminate the burning of all fossil fuels in order to naturally transit into renewable energy. It is one of the hardest challenges of them all, as fossil fuels have been a part

of humanity for over centuries. However, in order to stabilize its use, reducing the excessive extracting of fossil fuels may be the only solution. Other possibilities include setting up research facilities to investigate cleaner forms of combustion, which still won't solve the issue of its scarcity. For nations to minimize their usage of fossil fuels, they must adjust their policies towards increasing the implementation of renewable technology and decreasing the combustion of fossil fuels.

6. Bibliography

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