

GEMUN 2018

Environment Commission (EnvCom)

Topic 3: Promoting scientific research for the development and implementation of alternative sources of energy Research

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I. DEFINITION OF KEY TERMS

Alternative/Green energy: any naturally occurring, theoretically inexhaustible source of energy, as biomass, solar, wind, tidal, wave, and hydroelectric power, that is not derived from fossil or nuclear fuel.

Ecofriendly: having a beneficial effect on the environment or at least not causing environmental damage

Global warming: an increase in the earth's average atmospheric temperature that causes corresponding changes in climate and that may result from the greenhouse effect.

Forest chip: a medium-sized solid material made by cutting, or chipping, larger pieces of wood.

II. INTRODUCTION

In this GeMUN 2018 ENVCOM conference, the topic, on which we will entertain our debate, will regard the necessity of promoting scientific research in order to find new ways to produce energy. It is a topic that touches every single country as it involves not just a restrict area but the entire globe.

It has been estimated that around a fifth of the world's primary energy supply already comes from renewable sources such as wind, solar, hydro and geothermal. This sector is expected to continue growing by 2.6% each year until 2040. But besides that, countries are asked to work in order to find new ways, aiming to rely only on alternative resources, which not only are infinite sources, but they don't provoke on the world environment a negative impact. Moreover in 2019 the WEC (World Energy Council) will be held in Abu Dhabi and it will be entirely dedicated to the promotion of research for sustainable resources. WEC is an UN-accredited global energy body, born in 1923, which takes place every three year. More than 3,000 member organizations located in over 90 countries have contributed to the project, with the aim of establishing a network based on cooperation and dialogue between countries in order to spread data about energy production and raise awareness of the current global situation.

Another reason which brings us today to deal with such a topic, is the perpetual increment of global population, which entails as a consequence a higher request of accessible energy. Consequential to the industrialization and the development of areas such as Asia and Latin America that has allowed an improvement of social and economic conditions and increase of the life expectation in the interested countries, it has been the increase of the rate of energy consume. The IPCC (United Nations' Intergovernmental Panel on Climate Change), held last year, estimated that by 2040, the world's energy consumption will have increased by almost 50%. It is now clear that countries have the duty of cooperating together in order to come up with a solution to the global crisis. Many are the fields that still have to develop, as an example the wave energy, which even though has remained relatively expensive and hard to capture, in recent times has recorded an improvement on the exploitation of ocean movements. Definitely one of the main key to solve the problem is to incentivize the national investment on scientific research



III. BACKGROUND INFORMATION

The taking over of the industrial field on ordinary life has brought us to conceal a life which requires much more electrical power than in the past. Before the Industrial Revolution, humankind used to rely on what nature offered him- sun, fire, wind and animal force. But as the

new technologies developed, when by the end of the 18th century steam engines powered by coal dug have spread around mostly Europe (more efficient and effortless machines) human conception of life changed. Since then, men's consume of energy has increased, as more and more aspects of life had become dependent from it. The beginning of the 20th century represents a turning point for industry as a new form of fuel was catching on: petroleum. But the increment of the use of petroleum in energy production went out of control. It has been reported that since 1850s over 135 billion tonnes of crude oil have been used to drive our cars, fuel our power stations and heat our homes.

The release of certain gases in the atmosphere, caused by the burning of fossil fuels, blocked heat from escaping. As a consequence phenomena as the global warming took over, destroying natural habitat such as the Poles which are currently melting. It has become a necessity to find alternative ways to produce energy not only to save our own planet, which is suffering from human's actions, but also it is necessary to substitute fossil fuels as they are a finite resource, which means that now or then they will come to an end.

IV. MAJOR COUNTRIES INVOLVED

Uruguay: in less than 10 years, Uruguay has provided 94.5% of the country's electricity from using renewable resources. Adding to the already existing hydropower production, biomass and solar power have also been ramped up. The WWF last year named Uruguay among its "Green Energy Leaders", proclaiming: "The country is defining global trends in renewable energy investment."

Finland: by the end of the year 2014 Finland has recorded an increase of 38,4% in consumption of renewable energy. It is investing in solar, wind and hydro power, but mostly in biomass power. Giving few data since March 2011. 161 power plants have been accepted in the system, of which 53 are forest chip plants and 103 wind power plants, that makes Finland the European leading country.

Denmark: Denmark is a world leading country in wind energy production as in 2014 Denmark produced 57.4% of its net electricity generation from renewable energy sources. This country really understands renewable energies: by 2035 they expect to use 100% renewable energies, and by 2050 they would not be using fossil fuels at all.

They have been able to fulfill the national electricity demand and export power to Norway, Germany and Sweden

V. UN INVOLVEMENT

"Ensure access to affordable, reliable, sustainable and modern energy for all" is one of the 17 goals which are part of the UN project came into force on the 1st January 2016. It is a project which aims to sustain an equal and global development in order to fight against inequality and environmental crisis. Definitely UN is acting to provide new sources to find renewable energy, inviting and inciting countries to join the project. By the year 2030 UN is hoping to:

- ensure universal access to affordable, reliable and modern energy services
- increase substantially the share of renewable energy in the global energy mix
- double the global rate of improvement in energy efficiency
- enhance international cooperation to facilitate access to clean energy research and technology, including renewable energy, energy efficiency and advanced and cleaner fossil-fuel technology, and promote investment in energy infrastructure and clean energy technology
- expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all in developing countries, in particular least developed countries, small island developing States, and land-locked developing countries, in accordance with their respective programmes of support

VI. USEFUL LINKS

<https://www.theade.co.uk/resources/what-is-combined-heat-and-power>

<https://www.environmentalscience.org/renewable-energy>

https://www.eia.gov/energyexplained/?page=renewable_home

<http://www.res-legal.eu/en/home/>

<https://www.investinfinland.fi/-/new-record-for-renewable-energy-production-in-finland>

<https://www.theguardian.com/environment/2015/dec/03/uruguay-makes-dramatic-shift-to-nearly-95-clean-energy>

<http://www.un.org/sustainabledevelopment/energy/>

<http://www.ipcc.ch/index.htm>