Forum: General Assembly 2

Issue: Measures to aid the transition to renewable energy in developing East Asian nations

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Introduction

The adverse effects of climate change have become an ever-increasing issue. Many countries are looking for alternative energy sources that would cause less environmental damage, such as renewable solar or hydroelectric energy. However, the vast majority of commercially consumed energy is still generated from fossil fuels such as petroleum and coal. Fossil fuels are formed from the natural decay of organic material such as plants or animals, and are considered a nonrenewable resource because they take millions of years to be created. Upon combustion, fossil fuels produce greenhouse gases which trap heat from the sun in the earth's atmosphere, causing the earth to go gradually warm over time (climate change), a harmful process which will ultimately result in extreme weather phenomenon, melting of polar ice, eventual destruction of habitats, and creation of climate refugees as large parts of the earth become uninhabitable.

The current methods of producing, refining and utilizing energy have negative impacts on the environment. Not only does the burning of fossil fuels damage the environment, but it can also cause serious health problems for people. Coal is often burnt as part of the industrial process of producing electricity. The gases that are released when the coal is burned enter the atmosphere as air pollution, which can damage to people's heath by causing respiratory issues such as asthma, particularly in industrializing countries like China and India where air pollution remains a severe and chronic issue.

Renewable energy is a sustainable alternative to the fossil fuels that are being used, without the negative impact on the environment. Renewable energy can be used immediately, like with solar or wind power, and they also do not run out. The world relies heavily on fossil fuels, to power cars, heat homes, and many other uses. However, the earth's supply of fossil fuels is rapidly diminishing as demand continues to increase. Possible alternatives to fossil fuels are solar power, hydropower, tidal power, wind power, geothermal energy and nuclear energy, though it is a controversial form of power. These types of renewable energies are non-pollutants and replenishable, making them a much better and more sustainable option than the fossil fuels currently being used.

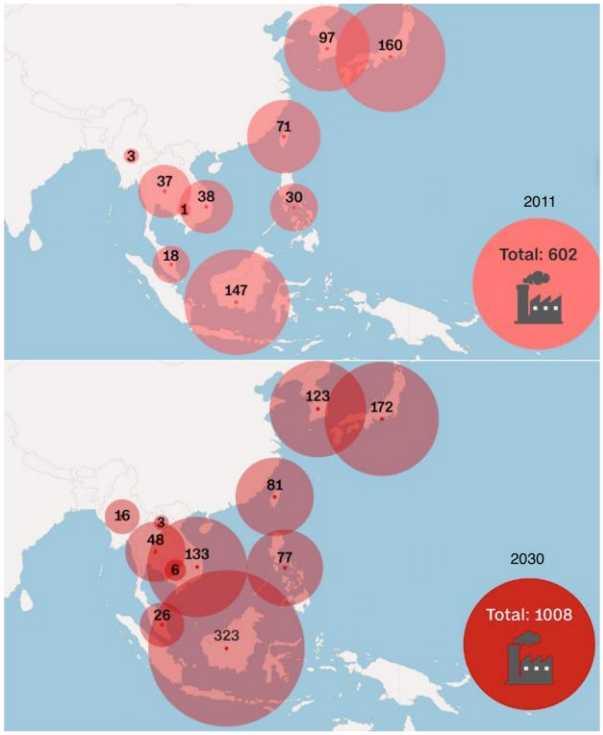

Figure 1: Projected Coal Fired Power Plants projects by 2030 compared to how many existed in 2011

However, many countries refuse to or simply cannot access such sources of energy. One of the biggest contributors to climate change is Asia, or more specifically, South East and East Asia. Countries such as India, Indonesia, and China are pouring out more pollutants into the air than almost any other countries, with China and India being the biggest perpetrators. China's measures to move towards sustainable energy have been put on hold due to the trade war with America, forcing their industrial output to increase and as a result are polluting the air even further. In fact, the situation is so bad that, in a research report by Harvard, carbon emissions in South East Asia are expected to triple by 2030. The report estimates that approximately 20,000 people in the region die every year from coal-fired power station emissions, and it projects this number will increase to 70,000 by 2030 if all the proposed power plant projects in the region go ahead.

Air pollution in Asia not only comes from big corporations and coal fired plants. Another large source of carbon emissions come from cultural practices. Things such as fireworks and incense are also very harmful to the human body and to the environment—it is said that burning. incense indoors can be just as bad as inhaling second hand smoke. Fireworks in poorer regions such as east Asia are made with cheaper materials, which release harmful chemicals into the air upon combustion. Most of these chemicals make it back to the ground, but some end up in water sources and other land.

Definition of Key Terms

Renewable Energy

Energy from a source that is not depleted when used, such as wind or solar power.

Air Pollution

The presence in or introduction into the air of a substance which has harmful or poisonous effects, common particles include PM2.5, and CO2.

Coal Fueled Plants

A fossil fuel power station is a power station which burns a fossil fuel such as coal, natural gas, or petroleum to produce electricity.

General Overview

Problems Raised

Field Torching

In areas such as India and Indonesia, field torching is a common practice used by farmers to clean they fields before the next harvest. This activity contributed 26% of all the harmful particles in India's air from 2013-14, and were also a direct cause of the forest fires in Indonesia in 2015. However, the farmers in the Indian region remain stubborn and many refuse to renounce the practice of field torching. Having received limited education, many of these farmers are unaware of the causes and effects of climate change. They refuse to take responsibility for the smog they have caused and say it is emitted by vehicles. But the farmers do have reason to keep the field torching method—it is the quickest and cheapest method to use. Many farmers in India are already under economically strained circumstances with no time or money to these new methods. Though the government has placed fines of up to $140 for field torching, a new machine will cost an average of $2000, which in the long run is far more expensive and time consuming. Field torching remains a prevalent occurrene in the region, with around 44,000 fires in India during 2017 alone.

Energy use Domestically

In many parts of Asia, coal is used as the main power source for homes. In the winter, many families will use coal to heat their houses and, when cooking, will use stoves that also require the burning of fossil fuels. This is similar to the practice of field torching in the respect that using coal stoves and heaters is, to some people, the only method that they know of. In many parts of China and India, people in rural areas who, on average, have a more limited access to education tend to use more unrenewable domestic energy because they are unaware of more sustainable alternatives. In China, the smog produced in rural regions in the North can travel down and around China, spreading all across the country.

Coal Plants

Coal plants are the biggest contributor to smog in Asia, and the problem only seems to be increasing. It is estimated that there are 19,880 excess deaths on average per year due to South East Asian coal emissions, a number which is expected to increase to 69,660 by 2030. Indonesia and Vietnam will

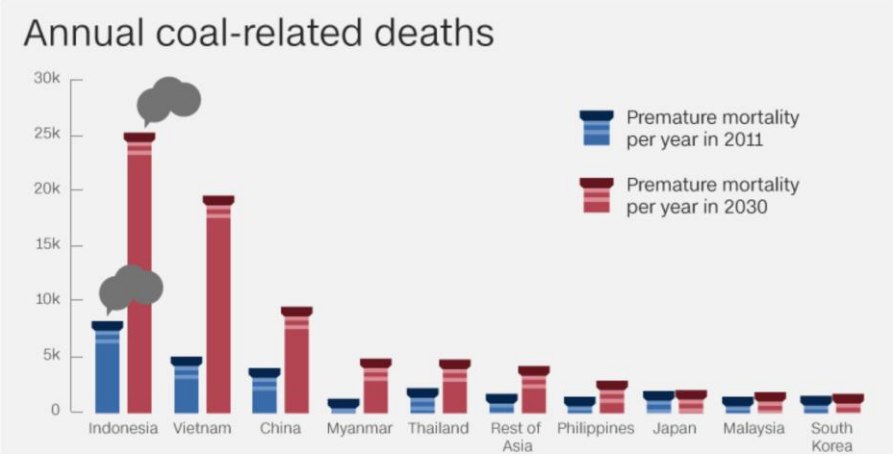

Figure 2: Mortality rates in different parts of Asia due to the effects of Coal Fired plants

account for a combined 67% of the total increase, as Indonesia plans to build 176 new coal plants by 2030, 75 of which are already under construction, with relatively lax emission standards. But in India the problem is increased by fivefold, with an estimated 100,000 people or more dying from coal fueled plants each year. China, a country that relied heavily on coal plants to industrialize, is also a major contributor to the problem, consuming nearly 40 times the amount of coal that Indonesia uses.

Use of Cars and Motorcycles

In such populated areas, everyone is bound to have some means of personal transport. In Southeast Asia, nearly everyone possesses a car or motorcycle, which clog the roads in urban areas like Beijing and Delhi and emit large amounts of CO_2. The same problem that prevented the elimination of field torching is also present here—using pollution-emitting vehicles is the simplest and fastest option. Although vehicle emission laws are in place in most countries, governments have limited power to enforce them due to the sheer number of vehicles in the country. As a result, people often do not attend routine checkups to make sure that the emission level of their vehicles is within the acceptable range.

Key Players

India

As mentioned before, India is one of the world's largest producers of CO^2 emissions. With over 100,000 annual deaths from coal fire plants alone, India's problems with air pollution is serious and growing. India's problems don't just stem from industry, but also have domestic causes. In India, many families will burn their trash outdoors and cook their food on coal fire stoves. In rural areas, the farmers will burn their fields after a harvest instead of using machines to clear them.

Indonesia

In Indonesia, the air that the people breathe in is far from being safe. Like in India, the causes of this pollution vary greatly, but the main sources would have to be coal fired plants and vehicle emissions. The capital's streets are packed with thousands of fossil-fuel-powered private cars and motorcycles, which produce smog-forming emissions. These pollutant sources do not include the burning of coal and fuel oil from various industries, household trash and vehicle batteries in small garages. According to Jakarta's Environment Agency, vehicle emissions are responsible for as much as 70% of the city's air pollution.

The Mahatma Gandhi Institute of Education for Peace and Sustainable Development (MGIEP)

The Mahatma Gandhi Institute of Education for Peace and Sustainable Development (MGIEP) is an essential part of UNESCO in the Asia-Pacific region. It was founded with support from the Government of India. The Institute's global goal is to transform education policies and practices by developing teaching and

learning methods. Its objective is to teach generations of young people about how to create peaceful and sustainable societies. In India, UNESCO MGIEP's work is directed towards embedding skills for peace and sustainable development into curricula, and fostering youth programs and networks to change education systems.

Clean Air Asia

Clean Air Asia is one of the biggest organizations in Asia that helps combat air pollution in a multitude of ways. They assist countries by supporting them in the development, strengthening and implementation of fuel-quality, vehicle-emission, and fuel-economy standards; initiating the Global Green Freight Action Plan under the Climate and Clean Air Coalition's Diesel Emissions Initiative, launching the Green Freight and Logistics agenda on to the world stage to help reduce the negative impact that transport of goods creates; and

UN Involvement, Relevant Resolutions, Treaties and Events

The United Nations Environment Program (UNEP) is an organization that works on matters regarding on raising awareness, providing environmental program assistance to developing nations, presenting reports on a wide range of environmental issues, and strives to create international conventions and protocols to preserve the environment.

The United Nations Framework Convention on Climate Change (UNFCCC) considers the environment a resource utilized by all nations and believes that it is the responsibility of each nation to protect it. The convention was conceptualized in 1992 and came into effect on March 21, 1994, when it was supported by a majority of member states. The convention suggested governments to work together to minimize the environmental damage caused by fossil fuels and look for renewable energy sources. The convention also encouraged developed nations to reduce their own emissions, as developed countries cause the majority of greenhouse gas emissions. Although many member states supported UNFCCC, the convention and was not effective as many countries today still produce large numbers of carbon emissions and show no signs of stopping.

The Kyoto Protocol was introduced on the 11th of December 1997 as an agreement set by the UNFCCC. The Kyoto Protocol includes legally binding environmental goals for countries to meet from 2008 - 2012. If member states meet the requirement, it would cut greenhouse gas emissions by 5% from the 1990 level. A new concept called "emissions trading" was also introduced by the protocol. This allows countries that have exceeded their allowed emission levels to purchase "emission credit" from countries that stay below their limits. Emissions trading allows for underdeveloped countries to benefit from cutting their emissions as many fossil fuel reliant developed countries may purchase their credit. However, the Kyoto Protocol has run into some issues, as the United States, and China, which are amongst world's largest users of fossil fuels did not sign on to the Protocol which diminishes the legitimacy of the protocol in many nations' eyes.

The Paris Climate Agreement, arguably the most famous example of international efforts to stop climate change, was brokered within the United Nations Framework Convention on Climate Change in 2016. It aims to keep the global annual temperature rise within 2 degrees Celsius starting from 2020 by asking for nationally determined contributions from member states, carrying out global progress checks every 5 years, and implementing a new

technology framework to support developing nations. However, a combination of factors makes the Paris Agreement hard to enforce—the difficulty of measuring emissions levels on a national scale, the rejection of developing countries such as China and India of review mechanisms to check that they do not exceed agreed-upon emissions levels, and the lack of real consequences for states who do not adhere to or withdraw from the Agreement (as exemplified by the United States' withdrawal in 2017.) As a result, the Paris Agreement has come under extensive criticism for being an ineffective gesture.

There are also multiple governmental and non - governmental organizations (NGOs) that are working toward using more environmentally friendly renewable energies instead of the fossil fuels currently being used. The United Nations Environment Program (UNEP) is an example of such an organization. The UNEP's Risoe Center on Energy Climate and Sustainable Development (URC) works, particularly with developing nations, to promote the development and use of renewable energies.

An example of an NGO that focuses on renewable energy is the Renewable Energy Agency (REA). The REA was formed in 2003 with the goal of protecting the environment by using renewable energy sources, raising awareness among the public on the use of renewable resources, and promoting research on the issue. They work with other organizations as well governments to promote the research and implementation of renewable energy.

The United Nations has also passed many resolutions regarding the issue, such as but not limited to:

- Resolution adopted by the General Assembly on 26th October 1998, "World Solar Program" (53/7), (http://www.worldlii.org/int/other/UNGARsn/1998/42.pdf)
- Resolution adopted by the General Assembly on 19th December 2007, "Promotion of new and renewable sources of energy" (62/197), (http://undocs.org/A/RES/62/197)
- Resolution adopted by the General Assembly on 21st December 2012, "Promotion of new and renewable sources of energy" (67/215), (http://undocs.org/A/RES/67/215)

Timeline of Events

Date	Description of event
3rd - 14th June 1992	The United Nations Conference on Environment and Development (UNCED) also known as the Earth Summit, was held in Rio de Janeiro. In which a Rio Declaration (Rio Declaration on Environment and Development) was published with 27 principles to advance sustainable development around the globe in the future and included the adoption of Agenda 21, which goal was a global plan to increase and facilitate sustainable development
1994	UNESCO will try to gain political support in the name of developing renewable energy

16th to 17th September 1996	The World Solar Summit is held in Harare, Zimbabwe
1998	The World Solar Program is ratified by the General Assembly
2002	The World Summit on Sustainable Development is held in Johannesburg to progress with article 21
April 2003	The UNEP launches a four year Indian Solar Loan Program
2007	The Indian Solar Loan Program with the energy globe after helping more than 100,000 people and 18,000 household in India
August 2011	The UN releases a document titled the “Promotion of New and Renewable Sources of Energy”, in which it acknowledges the importance of renewable energy
2011	UN Secretary General Ban Ki Moon launches a “Sustainability for All” initiative to support the Paris climate agreement and help speed up the progress of the Sustainable Development Goals
20th - 22nd June 2012	The United Nations Conference on Sustainable Development was held to secure further political support and to assess progress of precious measures as well as discuss new problems
May 13, 2013	ECOSOC’s Integration Meeting on "Achieving sustainable development: Integrating the social, economic and environmental dimensions" gathered high-level representatives of member states to examine how integration of the economic, social and environmental dimensions of sustainable development in renewable energy sectors
January 1, 2016	The 17 Sustainable Development Goals and the 2030 Agenda for Sustainable Development have been adopted by member nations in a UN Summit.

Possible Solutions

Raising Awareness

One major issue with the CO2 emissions is the sheer lack of awareness. In the countryside, many people still burn crops and trash outside due to the lack of education. They are unaware of the negative consequences of their actions and do not act upon their mistakes. In the city, many people use their cars and refuse to preform checkups because they are unaware of the importance of the issue. What countries could also do is implement courses into schools that teach children about the dangers of air pollution and have them do school projects. Governments could also send teaching teams into the rural areas to educate the citizens about the harms and dangers. Public social media campaigns as well as billboards can also help spread the cause.

Government Interventions

The governments in the regions will have to do a lot more in order to solve this pressing issue. The problem raised with cars can be easily tackled by enforcing stricter restrictions on emissions and providing the cities with sustainable buses as well as subways. Another big problem with air pollution in Asia is how big corporations place their factories there due to the relatively low labor costs. Governments should impose sanctions on corporations that exceed a certain limit for Carbon Dioxide emissions and should also have stricter regulations. In places like Indonesia coal fired plants are being built in large quantities and the government's regulations on those projects are very lax. What they should do is to limit the amount of coal fired plants and invest in sustainable energy. With farmers who burn their crops the governments could also subsidies them and help with the transition to sustainable farming methods.

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