



INDIAN INTERNATIONAL MODEL UN STUDY GUIDE

COMMITTEE: UNEP

AGENDA: Finding means of integrating the renewable energy (Production and)usage in the developing countries with a special light to reducing the increasing emissions

INTRODUCTION

With the tremendous increase in domestic and industrial need of energy, the world is becoming a global village. With unstoppable technology advancements, the need for energy is increasing on an hourly basis. Not only this, many parts of work still face power supply deficits. This goes hand in hand with the emission of green house gases, gases that absorb and emit thermal radiation, creating the 'greenhouse effect'. From harmonics in electrical systems to traditional incandescent light bulbs at home, transitions can take place everywhere. No doubt fossil fuels are effective sources of power production but factors like sustainability and environmental and ecological balance cannot be ignored. Burning of fossil fuels produces carbon dioxide, nitrogen monoxide, nitrogen dioxide, Sulphur dioxide and carbon monoxide gases, all threatening existence in the long run due to their effects, including global warming, acid rain, desertification, sea level rise, etc. The issue of climate change has matured from only a theoretical probability, to a catastrophic destiny that is not too far from full realization if the international community fails to act. The international scientific community has overwhelmingly confirmed man-made climate change, and there are clear links between global warming and greenhouse gas emissions stemming from burning coal, oil, and natural gas.

Severe effects will occur if the world fails to act, including changes in precipitation patterns, more frequent heat waves and droughts, stronger typhoons, and sea level rise ranging from one to four feet by 2100. Climate change relates back, somewhat disproportionately, to developing nations. These nations are not only at an increased risk to experience the worst effects of global warming, but are also key actors in how, and if, the world will address climate change in time. As these nations industrialize, they risk following the same path as the now developed nations, which led to excessive pollution and ultimately to CO₂ gas emission, which has played a large role in rapid climate change. Developing nations are disproportionately more affected by climate change's impacts than developed nations. Developing nations are less refractory to climate change's harmful effects. They lack the monetary and infrastructural capacities that developed nations have, and thus their populations are more at risk to things such as droughts, floods, and ensuing food shortages. Additionally, developing nations are also industrializing nations, which produce more greenhouse emissions on their way to becoming developed states. Implementing the necessary technology and adhering to environmental regulations are costly, both for their current budgets and also for their development prospects. Nations like India, China, Philippines must eventually decide whether they will seriously consider environmentally friendly options, or pursue economic development without environmental restrictions in order to bring their citizens out of poverty.

The use of renewable energy, energy which is derived from a limitless source, is very essential. While choosing the right form and source of energy factors like cleanliness, cost, stability, efficiency, portability and environmental effects must be taken into account. There is an urgent need of renewable energy integration with a special focus on distributed generation in developing countries, adequate energy storage and demand response into the electric and transmission system. Depleting gasoline, wastage of electricity, etc can be encountered by using hybrid systems and Compact Fluorescent Lamps (CFLs) as they not only save money, they save energy for others consumption. Conservation of energy and utilizing renewable sources is the ultimate destination of energy.

HISTORY

Starting from the 18th century, wood fuels were already being substituted by coal in many industries, while in the beginning of the 19th century heating services made a move from organic biomass to fossil fuels. Though the remarkably growing demands of coal raised concerns about coal scarcity and its consequences for the production process, new technological improvements enabled the management of a constant supply while keeping the prices low and introducing new energy resources such as petroleum and petroleum by-products. The internal combustion engine is the major invention which actually promoted the use of refined oil. In 1973, the oil-producing countries decided to increase the price of crude oil by a factor of five from 2 dollars to 10 dollars per barrel. This created a sensation and chaos in the economic situation of both the developed and the non oil-producing developing countries. The need for increased collaboration was highlighted at WSSD and manifested through the JPoI and a number of voluntary partnerships. The Political Declaration from the Renewables 2004 Conference stressed the need for stronger international cooperation in six areas: policy development, capacity building, technology transfer, joint R&D, financing, and trade barrier reduction. Continued attention to the themes drawn from Bonn, through implementation of the IAP and others, will enhance the success of international collaboration to promote renewable energy, and help optimize its contribution to sustainable development.

On the international stage, there were other early agreements aimed at combating climate change, such as the Kyoto Protocol. The agreement was a first between countries to mandate individual reductions in greenhouse gas emissions. It did so based on economic developmental levels, with developed countries targeted over developing ones even though two developing nations, India and China, were the emerging big emitters. The agreement also had no consequences, non complying nations could cheat without any penalty, and it failed to mention other acts of conservation like preventing deforestation. Finally, nations disagreed over climate monitoring, and therefore greenhouse gas outputs were difficult to track. Nevertheless, the Kyoto Protocol was the first agreement of its kind, and it introduced many practices that have been carried throughout future agreements.

The next relevant resolution was the formation of the Green Climate Fund. The fund was formed in 2010 to provide monetary assistance to developing countries to adapt to the effects of climate change, and to reduce their own greenhouse emissions. Funding came predominantly from large developed countries, such as EU nations, the United States, and Japan, and went to some of the world's most threatened nations, like India, Pakistan, and Senegal. The Green Climate Fund is important as it was a model, and a true medium, for dispersing needed funding to developing nations from developed ones. This practice would be replicated in the Paris Agreement.

CURRENT SCENARIO

Global energy demand rose by 2.1 percent in 2017 to 14,050 million tonnes of oil equivalent, more than twice the previous year's rate, boosted by strong economic growth, according to preliminary estimates from the IEA (International Energy Agency). Energy demand rose by 0.9 percent in 2016 and 0.9 percent on average over the previous five years. Over 70 percent of global energy demand growth was met by oil, natural gas and coal, while renewables accounted for almost all of the rest. Improvements in energy efficiency slowed in the year 2016. As a result of these trends, global energy-related carbon dioxide emissions increased by 1.4 percent in 2017 to 32.5 gigatons, a record high. The goal of the Paris Agreement on climate change, as agreed at the Conference of the Parties in 2015, is to keep global temperature rise this century to well below 2 degrees Celsius above pre-industrial levels. The agreement also urges countries for efforts to limit the temperature increase even further to 1.5 degrees Celsius. The UN Environment Emissions Gap Report 2017 presents an analytical assessment of current national mitigation efforts. The foundation of the Paris agreement is the goals countries have set in their Nationally Determined Contributions. One of the Sustainable development goals, goal 7, formulated by the UN aims to correct this enormous imbalance by ensuring everyone has access to affordable, reliable, and modern energy services by the year 2030. To expand energy access, it is crucial to enhance energy efficiency and to invest in renewable energy. Also the Goal 7 of the SDGs aims to correct the enormous imbalance of energy usage by ensuring everyone has access to affordable, reliable, and modern energy services by the year 2030. To expand energy access, it is crucial to enhance energy efficiency and to invest in renewable energy.

Developing countries are initiating low cost emissions reductions projects through renewable energy (RE) and energy efficiency (EE) initiatives. Greenhouse gas (GHG) emissions reductions created by a sample of 273 internationally supported RE and EE projects in developing countries implemented between 2005 and 2016 amount to approximately 0.3 gigatons of carbon dioxide (GtCO₂) annually by 2020. Governments present at the lower levels including state and city governments are willing forming alliance with the private sector to

address common challenges related to climate change and sustainable development. The Intergovernmental Panel on Climate Change (IPCC) has indicated that achieving a 1.5°C- or 2°C-compatible future is a very challenging task, yet almost all the technologies needed to build this future are commercially available today. Since Bonn, a number of developing countries have launched major policy initiatives and/or programs that will inform decision-making. These include development of the China Renewable Energy Law and small hydro resource assessment program; improved planning for integration of renewable energy into rural electrification in the Philippines; the India Ministry of Non-Conventional Energy Sources (MNES); wind resource assessment program; etc. Many developing countries face problems in formulating effective policies to make available energy to rural populations, due to a lack of relevant knowledge and experience. The African Microhydro Knowledge Network (AMKN) demonstrates the ability of international collaboration to overcome barriers to effective policy development. Another significant policy development example is the EU Commission's Green-X project 2005. This project has developed a model to assess learning curves and costs across the available renewable energy technologies and determine level and types of appropriate price signals that can be introduced to ensure growth at the lowest socio-economic cost. This model could be used to assist many countries.

BLOC POSITIONS

- **Western Bloc**

Many Western nations are still heavily dependent on fossil fuels as an energy source, although they have taken actions towards more renewable energy usage, with national environmental agencies and initiatives. However, the economic link that many western nations have in the fossil fuel industry overcomes the attempts of the western bloc to use renewable energy. Therefore, nations in the Western bloc should focus on solutions that incentivize renewable energy to the international community.

- **Latin and Caribbean Bloc**

In contrast to the Western bloc, the Latin and Caribbean bloc has taken much more action regarding the transition from fossil fuels to renewable energy. Nations such as Brazil are leaders for the rest of the international community to become more dependent upon renewable energy. Specifically, in Brazil almost 45% of its energy comes from renewable sources; this success is likely attributed to by the oil crisis of the 1970s as well as the unique climates displayed in this bloc.

But the EU has also been exceeding the CO₂ limits produced by its trucks.

Keeping this in mind, The European Commission has proposed an interim CO₂ reduction target of 15 percent by 2025 for all large trucks compared to 2019 levels. By 2030 trucks will have to emit at least 30 percent less CO₂ than in 2019.

- **African Bloc**

Not as much acknowledged, the continent has taken tremendous efforts towards using the potential of renewable energy it withholds. A big chunk of the growth is hydro because of Ethiopia, but then you have solar in South Africa, Nigeria and Namibia and wind in South Africa and Ethiopia as well. The sub-Saharan region has installed many techniques which resulted in doubling the use of renewable energy from around 35 gigawatts now to above 60 GW. Ethiopia had been progressing in the array of hydropower projects. The continent has a lot of potential, but the problem is financial and political issues.

- **Asian Bloc**

Although the Asian bloc is viewed as one of the greatest polluter in the international community, this is not the whole truth; nations such as China, Japan, and South Korea have been taking action to put a stop to the decades of environmental damage that they have caused in the world as a result of weak legislation. Also to be considered, in the race towards development, China and India's shift in production and trade rates might not match with the global target to meet the Paris Agreement goal of cutting emissions. Such countries should keep a check on the methods and technologies adopted by industries present.

SUGGESTED MODERATED CAUCUS TOPICS

1. Country's policy regarding the promotion of renewable energy and/or cutting back on the use of fossil fuels
2. Specific legislation passed by the countries in the past regarding renewable energy
3. Ways to incentivize the use of renewable energy
4. Integrating technology and knowledge on the global platform
5. Ecological cost for industrialization in future
6. Discussing constraints on countries with emphasis on IPGs
7. Relevance of an emission trading scheme
8. Adverse effects of continued emissions
9. Implementation of past declarations and agreements
10. Role and steps taken by international organizations

RESEARCH LINKS

1. <https://www.unenvironment.org/resources/emissions-gap-report>
2. <https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement>

3. <https://www.tandfonline.com/doi/full/10.1080/23311916.2016.1167990>
4. <https://in.reuters.com/article/asia-trade-climatechange/china-india-outsource-emissions-risking-climate-goal-study-idINL3N1SL1ZI>
5. <https://in.reuters.com/article/us-eu-trucks-emissions/eu-aims-to-cut-co2-emissions-from-trucks-by-a-third-by-2030-idINKCN1III18E>
6. <https://in.reuters.com/article/climatechange-emissions/nations-must-peak-their-emissions-faster-to-avoid-dangerous-warming-researchers-idINL8N1N62LK>
7. <https://in.reuters.com/article/usa-energy-carbon/developing-countries-to-vastly-outpace-oecd-in-carbon-emissions-u-s-eia-idINDEE96O0AR20130725>
8. <https://www.reuters.com/article/us-energy-carbon-iea/global-carbon-emissions-hit-record-high-in-2017-idUSKBN1GY0RB>
9. <https://www.cia.gov/library/publications/resources/the-world-factbook/fields/2254.html#18>
10. <http://cait.wri.org/>
11. <https://ourworldindata.org/co2-and-other-greenhouse-gas-emissions>
12. https://wedocs.unep.org/bitstream/handle/20.500.11822/22149/1_Gigaton_Third%20Report_EN.pdf?sequence=1
13. <https://www.epa.gov/ghgemissions/global-greenhouse-gas-emissions-data>
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15. <https://study.com/academy/lesson/energy-consumption-of-the-world-the-differences-in-consumption-between-developing-and-developed-nations.html>
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17. http://www.un.org/esa/sustdev/sdissues/energy/op/parliamentarian_forum/ottinger_promotion_re.doc
18. <https://www.unenvironment.org/explore-topics/energy/what-we-do/renewable-energy>
19. <https://journals.openedition.org/sapiens/823>
20. <https://www.sciencedirect.com/science/article/pii/S1364032114005395>