The International System: Why the United Nations Climate Change Approach Has Failed

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Abstract

Commentators discussing the COVID-19 pandemic are at present arguing that climate change is problematic and will eventually receive similar state reaction as the COVID-19 pandemic (Pettersson 2020, Rockström 2020)s these events have changed our state of mind. In the views of the author, this is erroneous and overly wishful thinking. This paper will show why this is the case and point out the fallacies of such hopes. COVID-19 requires a rational response with true knowledge and massive state expenditures. Governing an enormous internality. Global warming on the other hand is an ocean externality, where the rational response from the world's major polluters is to delay the United Nations process and to cheat with the fulfilment of emissions reduction agreements. The purpose of this article is to examine the big polluters' lukewarm orientation towards UN efforts against climate change in further detail.

Keywords: COVID-19 and Global Warming, Internality vs. Externality, CO2 concentration, Energy and Temperature, Coal Power, Carbon Capture, Climate Change

Introduction

Global warming and its mechanisms are predominantly discussed in the context of climate science. However, the basic determinant of climate change can only be understood in the context of international relations. The large states of the world are the major polluters, keeping it up primarily in the quest for energy safety. Energy consumption has exploded since World War II and continues to rise as energy is necessary for economic growth. The high percentage of fossil energy use in these nations leads to untenable levels of CO2 emissions.

The meetings of the United Nations Intergovernmental Panel on Climate Change (UN IPCC) process have for more than 30 years hidden the basic fact that countries whether rich or poor place a very high priority on

access to energy, especially the use of fossil fuels. Thus, when they in the current situation are forced to expand renewable energy, they retain their supply of fossil energy sources. In some countries, emissions from coal-fired power plants were reduced in 2019, and will probably decrease more in the current year due to the effects of COVID-19. However, both China and India are planning to open new coal-fired plants. A country like China may decrease its share of fossil fuels by expanding their total energy consumption, but their coal consumption in absolute terms is still rising. The result of these policies is shown in figure 1.

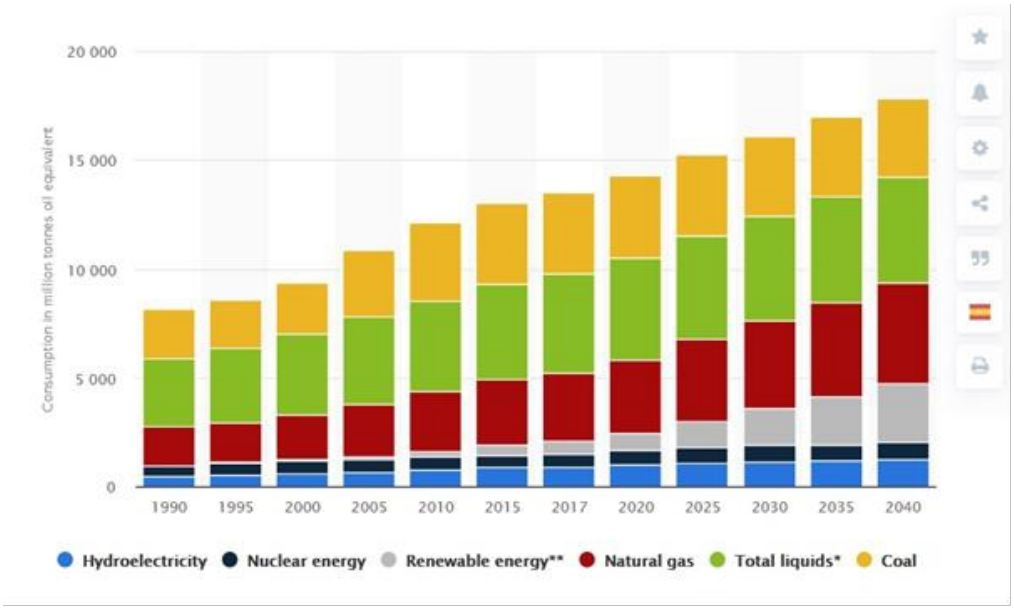

Figure 1. World Energy Projections through 2050 (Statista)

Similar projections have been published by other agencies such as the International Energy Agency (IEA, 2019) and the Energy Information Administration (EIA, 2020). Their predictions for energy consumption especially for coal power to 2050 are far from the objectives agreed upon in the 2015 Paris Agreement, where the aim was to reach a fossil fuel free planet by 2075 and reducing CO2 emissions as soon as 2020.

Major Energy Consumers

Global political power is in the hands of some 20 states who in reality decide the fate of global climate. Table 1 shows the major energy consuming nations, the major CO2 emitters, and major coal producers.

Table 1. Top 20 Energy Consuming, CO2 Emitting, and Coal Producing Nations in the World (Enerdata 2019, Crippa et.al. 2019, Energy Monitor 2019)

Top 20 Energy Consuming Countries 2018	**Top 20 CO_2 Emitting Countries 2018**	**Top 20 Producers of Coal Energy 2019**
China	China	China
United States	United States	United States
India	India	India
Russia	Russia	Russia
Japan	Japan	Japan
South Korea	Germany	Germany
Germany	Iran	South Africa
Canada	South Korea	South Korea
Brazil	Saudi Arabia	Indonesia
Iran	Canada	Poland
Indonesia	Indonesia	Australia
France	Brazil	Ukraine
Saudi Arabia	Mexico	Turkey
Mexico	South Africa	Vietnam
United Kingdom	Turkey	Taiwan
Nigeria	Australia	Malaysia
Italy	United Kingdom	Kazakhstan
Turkey	Italy	Spain
Thailand	Poland	United Kingdom
South Africa	France	Philippines
Share of World: 75.2 %	Share of World: 78.5 %	Share of World: 93,8 %

Table 1 clearly shows how the countries are also the great "sinners" in exacerbating climate change. Through their political power, these nations also strongly influence how policies are implemented regarding climate change in the United Nations COP (Conference of the Parties) process, preferring soft mechanisms like carbon taxation or CO2 emissions trading (cap and trade) over legislation. Hitherto they have accepted to participate in the UN process including much valuable research, but they have blocked any commitment to do anything concrete or serious in terms of emission reduction measures besides applauding general objective as a post-modernist discourse. These countries could lower the burden on the planet's ecosystems by implementing transformative methods of energy which includes the end of the use of coal-fired power plants. However, they do not choose to do so. Why?

Energy - CO_2 - Temperature

Let us look at present trends, which are not likely to change very much in the near future. Regression line for the experimental relationship between energy consumption in btoe (billion tonnes of oil equivalent) and CO2 in ppm (parts per million):

$$CO2\ concentration\ /\ ppm = 267.5 + 10*(World\ Energy\ Consumption\ /\ btoe) \quad (1)$$

CO2 emissions have been estimated to increase temperatures using the regression: Temperature Increase/(degrees centigrade) = -3.4 + 0.0106*(CO2 conc. / ppm) (2)

The regression results are shown in in table 2.

Table 2. Temperature Increase Scenarios based on Global Energy Projections.

Global Energy / btoe	CO_2 concentration / PPM	Temperature rise / degrees C
16	430	1.1
18	450	1.3
20	470	1.5
22	490	1.7
24	510	2.0

At present, the world consumes close to 15 billion tons of oil equivalent energy, translating to a 1-degree centigrade temperature increase. That is, energy is a major input to economic growth. Global energy demand is expected to grow by one-third between now and 2040 (EPIC, 2018). The current COVID-19 pandemic will certainly lead to a temporary reduction in energy use which leads to a decline in particulates contributing to pollution and climate change. By 2030, the Earth will experience temperature increases between 1.5 and 2 degrees Celsius, somehow considered as magical breaking points by experts like Nordhaus and Stern, who argue that the cost of global warming will become too high when these limits are exceeded (Stern 2006; Nordhaus 2013). In reality, the social and economic effects of global warming would be very much exacerbated when the rise is greater than 2 degrees Celsius (Stern 2006).

Gedanken Experiment - Replace Coal By Solar

One understands that some scholars have expressed great hopes for massive carbon capture projects, but it is more promising simply to shut down coal-fired power plants than to start putting CO2 into the crust of the Earth. What would it take to replace coal energy by solar power? Table 3 presents how many world-class solar plants (Indian Bhodla solar plant used as a reference) some of the leading economies in the world would need to construct to replace their entire fleet of coal-fired power stations.

Table 3. Solar Plants Required to Replace Coal Powered Plants (Global Energy Monitor)

Country	Number of plants
Asia:	
China	475
India	100
Japan	28
South Korea	18
Turkey	9
North America:	
United States	106
Canada	6
Europe:	
Germany	32
Russia	30
Africa:	
South Africa	14

Table 3 reveals the world's major pollluters . If the principle that the "polluter pays", China, India. and United States should engage in energy transformation towards renewables. The problem is that especially India demand sizeable financial compensation for such measures, quoting the Indian Cabinet: "It said that India has been ambitious in its actions and has emphasized that developed countries should take lead in undertaking ambitious actions and fulfil their climate finance commitments of mobilising USD 100 billion per annum by 2020 and progressively and substantially scale up their financial support to inform Parties for future action through NDCs " (Economic Times 2020).

Conclusion

As a basic axiom in international relations among sovereign states act on the base of national interest, and energy is major part that forms the international relations. All states plan to increase their energy consumption during this century as attributed to its economic growth, socio-economic development, reduction of poverty, and military leverage. The UN attempts to create normativity by means of a global common pool regime for CO2 emissions fail on the simple rule formulated by Hobbes: "Covenants, without the sword, are but words and of no strength to secure a man at all" (Hobbes, 2012) The lack of a global enforcing system will almost invariably lead to few or no results in the United Nations struggle for reducing emissions of greenhouse gases. Several scholars commenting on the COVID-19 regulations state that the time has come for a similar gigantic effort against CO2 emissions

(Rockström 2020). However, this is not at all probable. Fighting the current COVID-19 pandemic is an internality, whereas reducing greenhouse gases is an externality. The Big Polluters require more energy, and the role of renewables in their energy systems is marginal. The level of CO2 concentration has surprisingly not fallen during the COVID19 pandemic, because it remains in the atmosphere for some time. This limits the degrees of freedom of policy making for the International Society (Bull 1977).

References:

1. Bull, H. (1977) : The Anarchical Society. Macmillan, London, United Kingdom.
2. Crippa, M., Oreggioni, G., Guizzardi, D., Muntean, M., Schaaf, E., Lo Vullo, E., Solazzo, E., Monforti-Ferrario, F., Olivier, J.G.J., Vignati, E., (2019). Fossil CO2 and GHG emissions of all world countries - 2019 Report, EUR 29849 EN, Publications Office of the European Union, Luxembourg.
3. The Economic Times (2020): Cabinet approves India's stand at upcoming UN COP 25 on climate change. https://economictimes.indiatimes.com/news/politics-and-nation/cabinet-approves-indias-stand-at-upcoming-un-cop-25-on-climate-change/articleshow/72258630.cms
4. Energy Information Administration (2020). Annual Energy Outlook 2020., Energy Information Administration, US Department of Energy.
5. Enerdata: Global Energy Statistical Yearbook 2019. https://yearbook.enerdata.net/ .
6. EPIC (2018). EPIC analysis based on the data from BP Statistical Review.
7. Hobbes, T. (2012) Leviathan. Oxford, UK: Oxford University Press.
8. International Energy Agency (2019) World Energy Outlook. International Energy Agency, Paris, France.
9. Nordhaus, W (2013). The Climate Casino: Risk, Uncertainty, and Economics for a Warming World. New Haven, CT: Yale University Press..
10. Global Energy Monitor: Global Coal Plant Tracker. https://endcoal.org/global-coal-plant-tracker/
11. Pettersson, K. (2020): The corona crisis will define our era. Social Europe, https://www.socialeurope.eu/the-corona-crisis-will-define-our-era .
12. Rockström, J. (2020): Corona- och klimatkrisen har samma grundorsak. Svenska Dagbladet, Stockholm, Sweden, March 29, 2020.

13. Statista: Projected global energy consumption from 1990 to 2040, by energy source. https://www.statista.com/statistics/222066/projected-global-energy-consumption-by-source/ .
14. Stern, N. (2006). The economics of climate change: The Stern Review. White Paper from Her Majesty's Treasure of the UK Government, London, United Kingdom.