Reflections on the China-Europa forum

-- Zhang Xian Gui

Although this year's China-Europa forum could not be held as scheduled due to the H1N1 pandemic, several groups including our "Youth's role in the Energy Climate Challenge" group have organised their own discussions. Our group's event was held in Beijing, so that everyone will be able to attend the International Youth Summit on Energy and Climate Change (IYSECC) as well. In a short span of four days, I have learned a lot and I would like to share some of my thoughts with you.

1. The cause of climate change

When we talk about the cause of climate change, most people would first think of carbon dioxide and other greenhouse gases as the culprit. In reality, its causes can be classified into two categories: the natural fluctuation of climate and the effect of human activities. The former includes changes in solar radiation, volcanic eruption, etc. The latter includes the increase of greenhouse gases in the atmosphere, changes in the concentration of sulfur aerosol concentration and changes in land use caused by the manual burning of fossil fuels and deforestation. Research has shown that the Earth's climate has also changed centuries ago, albeit in a systemic and cyclic manner. From the regular changing of seasons, it can be seen that such changes did not have a serious impact on the production or lives of mankind. Nevertheless, because society is becoming more industrialised, there has been an increase in the usage of fossil fuels and a rapid increase in the amount of greenhouse gases in the atmosphere, which has resulted in serious greenhouse effect. The greenhouse effect is a process where solar radiation is absorbed into the atmosphere but not re-emitted. In other words, gases in the atmosphere such as carbon dioxide can heat the surface of the earth through shortwave radiation (low absorption); but the gases prevent the surface of the earth from emitting longwave radiation (high absorption), hence causing the temperature of Earth's near-surface air to increase continually. Human activities which release greenhouse gases include: all fossil fuel burning activities which release carbon dioxide. Among fossil energy sources, coal has the highest carbon content, followed by oil and natural gas; coal gas from the fossil fuel extraction process, natural gas leaks which emit carbon dioxide and methane; the release of carbon dioxide during the industrial manufacturing process of cement, line, etc.; the release of methane in rice fields and during the digestion process of ruminating animals such as cattle and sheep; the change of land use which lowers the absorption of carbon dioxide; the release of methane and nitrous

oxide from waste. There are 6 types of greenhouses gases which are produced by these human activities: apart from carbon dioxide, other greenhouses gases include methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride. Carbon dioxide has the most impact on climate change. The lifespan of carbon dioxide is very long. Once it has been released into the atmosphere, it can remain in the atmosphere for up to 200 years. Hence it has received the most attention. According to latest reliable reports, what was originally a harmless climate change has now become a serious problem that threatens the survival of mankind.

The policymakers in Working Group I of the Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment Report reported that the attribution of human activities to climate change in the past 50 years is up to 90%. This shows that the impact of human activity has exceeded the natural causes and has become the main cause of climate change.

2. The impact of climate change

Experiencing the effect of climate change, the globe's current climate system and the balance of the five ecosystems have been destroyed. The scale of impact is growing, the causing of factors are becoming more complicated, the rate of destruction is increasing, etc. Take China for example, the warming phenomenon in most areas has become significant over the years. Most cities are experiencing their warmest temperatures and people of all ages are complaining, "Why is the weather so hot today? I can't take it anymore." The extreme climatic conditions have also caused frequent catastrophes. For example, some areas have been experiencing droughts continually, whereas other areas are experiencing floods. This has inconvenienced the production and lives of the people severely. Not only have crops decreased drastically, the farmers' lives are also in distress and numerous industrial economies have made severe losses. Furthermore, climate change is melting away the Artic glaciers rapidly causing the sea level to rise. In China, the melting away of ice and snow in the northwest mountains (e.g. Mount Everest) has also threatened the survival of the residents living surrounding the rivers, lakes and seas.

In addition, the extreme climatic changes will also disrupt and destroy the natural environment and survival means of plant and animals by breaking down the food chain, reproduction process, migration seasons and areas, etc. This would speed up the extinction rate of animals and more of Man's companions would disappear forever. The effect of climate change on the natural environment and survival of mankind will continue to increase with the increasing severity of climate change, making it inevitable that global citizens regardless of country, political, economic and cultural background, skin colour and religion have to come together to deliberate on strategies and solutions to address the problem.

3. How do China and Europe's differences in addressing energy and climate change view a shared yet distinct responsibility?

Tackling climate change is a shared responsibility between nations all around the world. However, countries have different backgrounds. Hence on the premise of a shared responsibility, each nation's responsibility is distinct. Because the concept of "shared responsibility" is so broad, it cannot be quantified or enforced. This is why numerous global discussions and agreements (for example the Kyoto Protocol in 1997 and the Bali road map in 2007, etc.) held over more than ten years have not been able to acheive any resonable or effective results. Even till today we are holding countless international summits on this topic. I personally feel that the discussion on the responsibility of each country in address climate change should be based on several principles: fairness, mutuality and supervision. According to the comments of many leaders and environmentalists during the summit in Copenhagen in December, the international conference this year will be a historical moment. Whether nations from all over the world will come to a consensus on a common action plan will have a direct influence on the globe's living environment in the next several decades. It seems to me that three principles which I have mentioned previously should also be the principles which the Copenhagen Climate Conference bears.

The first principle is the principle of fairness. That is, countries with different backgrounds should take different actions to address climate change. Factors which should be considered include standard and pace of their social and economic development, structure of energy consumption, conditions of greenhouse gas emission, standard of industrialisation, population as well as standard of living. Coal accounts for majority of China's energy consumption (approximately 70%), her industrial technology is backward, she has a low rate of energy efficiency (approximately 33%, about 10% lower than in developed countries) and a high level of energy consumption. Hence China has become one of the countries with the highest rates of greenhouse gas emission. If we only consider these factors, then China deserves to be held responsible. However, China has a large population, there is a larger proportion of poor, the consumption rate is high, the level of urbanisation is low, its economy is poor and so is her industrial technology. If we also consider these criteria, then you would be aware that China is large nation but she is unable to implement the same preventive measures as the United States or European countries. Therefore, taking into account these factors, first a distinction has to be made between developed countries and developing countries. After that, it can be determined what the respective responsibilities of developed countries and developing countries are.

The second principle is the principle of mutuality. Climate change is a common challenge that we face globally, because we only have one

Earth to depend on for the survival of mankind. As the problem becomes more severe, every nation should break away from some of our beliefs and values such as keeping energy consumption techniques confidential, resisting standardisation; making huge investments in the resarch and development of high technology military techniques, military competitiveness, conservative management methods, unwillingness to share, etc. Tackling climate change would require action by the entire world, and this would require cooperation especially between developed countries and developing countries. Hence, the abovementioned values/perspectives are stumbling blocks. In order to come to a reasonable agreement in our discussions and to improve on slowing down and stopping climate change, these values have to be changed.

Finally it is the principle of supervision. Upon setting any measures, there has to be a resonable system of supervision. Through supervision, it can be ensured that these measures are implemented and any problems found during the supervision process can be adjusted or resolved. It would be ideal to set up an international organisation which would be responsible for undertaking the supervision role where members of the organisation would be represented by majority of the countries. Also, the organisation should be autonomous and not intervened by any particular country. It can also be an independent organisation under the United Nations. The role of the organisation is: to assist the United Nations Climate Change Conference in setting action plans and goals for each nation; regularly assess and supervise the measures implemented by each nation in tackling climate change, as well as assess the global climate change situation; ensure that appropriate action against nations who have breached the agreement is taken by the other international organisations under the United Nations (e.g. World Bank, United Nations Environment Programme, etc.); resolve disputes with nations or communities who are obstructing the implementation of actions.

These are some of my thoughts after participating in the "Youth's role in the Energy Climate Challenge" group. I have gained a lot from the discussion and I will find out more about related information and the latest happenings through my work and learning, I will also do my best to encourage the people around me to participate in taking more practical steps in slowing down climate change, in order to promote what China and the world is doing in tackling climate change.