

POLICY BRIEF SERIES

Young People, Energy and Sustainability

Sheng Yan*

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It is the best of time, and it is the worst of time.

When I'm sitting in front of the desk to write this piece of article, Beijing was just released from a severe three-day long haze strike. The city was surrounded by thick smoke and mist, colored with only plain grey that even cars running on the road were like wandering in the air. Skyscrapers in the central business district, the proven symbols of this city's incomparable economic growth, melt themselves amidst the smoke and dust, which signatures Beijing today as "The Capital City of the Haze".

It is this country's growing pain: Economic growth is built upon the sacrifice of society and environment. It cannot be denied that no other single place in this world's recent history has moved as fast as China's modernization process in the past 30 years. While growing its GDP up to the second largest globally, this nation has also put its clean, natural environment at risk. Yet, the giant's demand for energy, resources, food and water is still burgeoning inexorably. We are all aware that such growth pattern cannot be sustained.

It is not the first time that industrialization damages the clean living environment. I remember one of my professors at Columbia University once described his first trip to Beijing from Los Angeles back in the 1980s. When he landed in Beijing, he found himself switching

from the "black/white" to the "color" mode, as he would describe as "An escape from LA's horrible haze days". 30 years later, when he finished his visit to Beijing, he had a very similar but opposite experience since Beijing suffers serious haze problem while LA welcomes him with a crystal-blue sky. In fact, the same stories occurred in the history of many major cities around the world - London, New York City and Tokyo, just to name a few. Being one of the young generation in China, I am encouraged by the examples in the world history that such problem can be solved; I am also concerned, as it would take decades, probably more than one generation, to realize such changes. Critics could not bring back the blue sky, only actions could. The seed of involving myself in helping this country grows sustainably was buried in my mind when I volunteered for the Beijing Olympic Games at college, and it started thereafter.

Starting from the beginning of this new millennium, especially after 2008 Beijing Olympic Games, large concerns raised by the international community dragged people's attention on economic development from quantity to quality. In subsequent years when I worked with the Chinese government during my early career, sustainability become all of a sudden the hottest topics in many bilateral and multilateral international meetings. Many of my colleagues, including very senior officials,

* Sheng Yan holds a Master of Public Administration degree concentrating on Energy and Environment from the School of International and Public Affairs at Columbia University.

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started to learn the concepts, experience and lessons as the pursuits of sustainable development have been formalized under the national development strategy within a very short period of time. The trend has also been witnessed in my graduate school in the US – there were only three Mainland Chinese students at the energy and environment class two years ago. Today, the number surges to 15 out of a 60-seat class. Sustainability is a brand new challenge for this young country, and people’s awareness on it is the first step.

Furthermore, sustainability is not a single problem to tackle, but a set of them. Among all the related issues, energy tops the list. Never at a time in the history of mankind that China and the rest of the world are powered by fossil fuels and depend on them to such an extent. Apparently, the price to pay for them is high – not only the out-of-pocket cost of a barrel of crude oil, but the huge and invisible environmental cost behind. How to power our civilization sustainably today, and more importantly, in the forthcoming decades, becomes the key question facing our generation. At this very moment, an oil and gas engineer could not answer it on its own, nor could an environmental policymaker or a renewable energy investor. It calls for an integrated and comprehensive set of knowledge and skill in order to navigate in such dynamic field. Moreover, energy is so fundamental that any change in this industry could revolutionize the way people live. Such changes are actually taking place: the world’s largest oil and gas importer five years ago, the US, has reduced its import substantially due to technological breakthroughs on exploration, and is planning to rename itself as an energy exporter in the foreseeable future; the world’s most populated country China is preparing a soft-landing of its decades of economic growth, in order to focus on quality rather than quantity, which gives the best incentive to

prioritize pollution control in its development agenda; less developed regions around the globe are witnessing incredible growth on renewable energy today, hoping for a new form of prosperity with limited sacrifice of the nature; advanced economies have already been harnessing clean energy supply and benefits from enhanced energy efficiency. Most countries have promised to collaborate on combating climate change – the first time ever that nearly every nation works collectively on a common goal – despite the slow progress and hard compromises.

One could hardly believe that all these excitements have just started for a very short period of time but grown vigorously, if not witnessing them in person. That is the reason why I started with an energy and environmental consulting career after I graduated from Columbia University, recognizing that would be the most existing and effective way to be part of the progress. Sitting at my office in Manhattan, I was constantly exposed to what is happening across sectors and geographies – greenhouse gas emission from deforestation in the Amazon Region; energy efficiency improvement for curtailing carbon emission in the aviation industry; decarbonization plans of power generation in China; natural gas utilization policies in heavy duty vehicles; pilot design of a carbon emission trade system and enhancement of the green supply chain in China.

Same as what I learnt in school, my observation throughout my career makes it clear that sustainability in energy would end up at nowhere if China, the world’s largest energy consumer, does not join this party. With double-digit growth in energy demand and a supply structure dominated by coal, the potential to increase the sustainability of China’s energy system is huge. It will be a valuable learning experience for energy



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professionals to develop their career path upon this country's transformation. That is why I took another move recently from New York to Beijing, in order to take an insider perspective to this giant's turning around. Opportunities and changes are going on impressively – Coal consumption is expected to be capped with its combustion being more tightly regulated under the country's latest air pollution control action plans; Natural gas is increasingly recognized as the "bridging energy" while promising progress on domestic shale gas exploration in the Sichuan basin has been achieved; Renewable energy costs, especially for wind energy in West Mongolia are on the way down to compete with conventional fossil fuel in local power generation; Better awareness of energy efficiency is growing as the economy's energy intensity is stepping down. Though all these positive market moves are still far from maturity, their momentum is so encouraging that great potential is seen by involving in any aspect of the energy sustainability work.

The conclusion is obvious and inspiring: Young people can take initiatives and pioneer in powering China's sustainability.

Today, the traditional way of learning and training can no longer satisfy students from top universities since the energy world is not what it was decades ago. Ideas are booming. With improved communicative technologies and tools, young students and professionals in the energy sector are now well connected and can solve problems collaboratively. This is exactly what the newly established China Sustainability Program, as I believe, aims to promote. By enriching Chinese and American students with practical experiences of world class faculties and experts, these groups of young people are encouraged to come up with new solutions to tackle this complicated issues. By consulting the Chinese business sector on reducing energy use and improving efficiency, the young people's

skills and knowledge will be incorporated with more practical experience to better fit Chinese real business environment. By initiating sustainable development plans for local governments, state owned enterprises, and even the civil society communities, young people's voice and opinions on how to make this country grow continuously will be better heard by policymakers and the general public.

Energy is not a brand new industry. It has been the foundation of our economy although it changes very slowly over times. However, thanks to technological innovations and increasing energy consumption, the energy industry today has enormous opportunities that offer young people with incomparable career development potentials. It is the best of the time, the future of the energy world is multi-dimensional as growth options are wide and huge. More importantly, young people will be able to make a difference by stepping up to work on their generation's responsibilities.