

Report on Participation in 2014 Germany Overseas Field Trip

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The relationship between economic development and environment is not a new story any more. Nowadays, it has already come to a consensus that the protection of the environment should not be ignored during the economic development. However, when the guideline goes into practice, the final choices differ a lot from country to country.

In the field trip to Germany, what impressed me most is the fact that almost every place we visited, people were talking about renewable energy and environmental protection. Even when we went to the Deutsche bank, the staff introduced a lot about their new facilities that could save energy and reduce CO2 emission with great interest.

In fact, before the field trip, I already gained the information that the German government had made efforts in promoting renewable energy recently. Though renewable energy is cleaner and with larger reserves, they are much more difficult to use at the current stage, thus the costs are higher than using other sources. The economic result should be the increasing of the domestic costs of production, hence reducing some advantages in global competition. At the risk of losing economic superiority, Germany is now implementing a way of low carbon economy, which is actually ahead of other economies in the world. The plan is to increase the use of renewable energy to 40% by 2010 and finally 100% relying on renewable energy by 2050. The policy also got support from the citizens, and every family can take part in the network of energy supply decentralization with bidirectional electricity flow.

At the same time, in China, the situation is totally different. Since 1978, economic development became the main goal of the Chinese society. Though China has already become the second largest economy in the world, the Chinese government is still not satisfied, since they see more capabilities in their huge population. China have to maintain a high growth rate to cover the expenses of the population growth, aging of population, urbanization construction and so on. As a result, a lot of things have to be sent backward. On one hand, the importance of environment protection has been emphasized again and again. On the other hand, the old tragedy repeated in China. Nowadays, China experiences quite a lot of environmental problems. Recently, the air pollution in several large cities even attracted attentions all over the world. However, it seems that they do not have a proper solution, since the whole nation holds pressing needs for development. So the environment is sacrificed, or at least delayed to deal with.

Why Germany can achieve low carbon economy easily but China cannot? This question actually repeated again and again in my mind during the trip. In the Ministry of economics, energy, transportation and land development of Hessen, the officers said that German people sometimes care more about the human feelings rather than the economic development. This kind of romantic spirit leads them to the eco-friendly decisions. That could make sense, but in addition to cultural differences, from the perspective of rationality, I think there might be at least three reasons.

Firstly, Germany is one of the high-income countries. In 2013, according to IMF, the GDP per capita of Germany ranked 19th in the world, while China is placed on the 86th and the size of GDP per capita is less than one seventh of Germany. The famous environmental Kuznets Curve hypothesized about the relationship between environmental quality and economic development, that is, various indicators of environmental degradation tend to get worse as modern economic growth occurs until average income reaches a certain point over the course of development.¹ From history, we can also notice that the industrialization of Germany is more than one century ahead of China. Nowadays, China might still not reach that point while Germany has already done it a long time ago.

¹ Shafik, Nemat. 1994. Economic development and environmental quality: an econometric analysis. Oxford Economic Papers 46 (October): 757–773

Secondly, Germany used to rely quite a lot on energy importing. In 2008, 60% of its primary energy was imported.² Ruhr coalfield, which supported the rise of German industry, experienced a production decrease since 1990s. And the status of coal among all the energies also declined. As a result, Germany has more incentives to change the energy structure, using renewable energy to replace traditional energy, which could increase the energy self-sufficiency and protect the environment at the same time. On the contrary, the energy self-sufficiency in China is about 90%, which is quite high. However, along with the growing import demand of oil and natural gas, the incentives of energy structure transformation should also increase.

Finally, Germany has advantages in technology of using renewable energy. For example, SMA Solar Technology, which we also visited, is a market&technology leader of solar PV system, occupying 15-20% of the world market share. Their products exported to almost all over the world and they also stepped into Chinese market. This kind of technological companies develop along with the promotion of renewable energy, bringing benefit and even creating new economic growth points. In contrast, China is lacking those technologies. The development of renewable energy has often relied on the technology import. And the large population density inside the cities also increases the difficulties of China to apply renewable energy.

In conclusion, the eco-friendly economic development path that Germany is now practicing is also a rational choice based on its comparative advantages. Though China has not reached the perfect opportunity to implement the same thing, pushing environmental problem to a more important position is necessary. It's time for China to set dual goals towards the future development, maintaining a healthy economic development and reducing the harm to the environment. I was really happy to notice that China is the largest country to use wind energy. It was just a start. As a country with a wide territory, China actually has more potential to use various renewable energies than most other countries. And for Chinese economy, it might be also a good chance to accelerate the energy structure upgrading hence stimulate and foster the high-tech industries related to renewable energy.

² Data source: The World Bank Group