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China: “Green Prospects”. Part 3



Global dimension and prospects

Current forecasts, for example, of the International Energy Agency (World Energy Outlook, 2013) suggest, among other things, that China will be ahead of the U.S., Japan and Europe (combined) in the production of electricity from renewable and non-polluting sources by 2035. This prospect does not seem fantastic, although it might have been seen as such ten or even five years ago.

Let us consider, for example, the data on wind generation for 2012 – this is the most popular sector among the other types of new renewable energy resources. The total global capacity exceeded 280 GWh at the end of the year, having increased by 19%, or almost 45 GW over the year.

The capacity of China’s wind generators crossed the mark of 75 GW (a little less than 27% of the world total) that year, having increased by 13 GW (29% of the global growth). The increase was 21%, in comparison to the previous year.

As a result, the installed capacity of China ranks first in the world among individual countries (the U.S. is in second place with 60 GW), being a little inferior to the EU, considered as a whole (whose wind generators capacity is 100 GW).

The place of China in the main (though old) renewable energy sector seems even more impressive. We mean hydroelectric power plants. The total capacity of 30 GW was put into operation in the world in 2012. More than a half of it was put into operation in China – 15.5 GW. As a result, China’s share in the world capacity has exceeded 23%. This is the same as the aggregate capacity of the three countries following China: Brazil, United States and Canada.

Finally, China is an absolute world leader in water heating by solar convection (70% of the total).

Currently, China is in fourth place in solar generation capacity in the world, but we have already mentioned the ambitious new plans in this regard.

We could go on listing China’s successes, but we do not wish to bore the reader. We would like to mention only one “little fact”: China has come close to the Russian Federation in the production of wood pellets.

The position of China in the production of ethanol and biodiesel seems to be the most modest. This fact has a clear explanation: the country is turning fast into a major net importer of cereals and legumes.

Speaking about the green prospects of China, we cannot but mention that giant reserve the country has in the form of high savings rates, and hence the need to invest – including into the future of the country. We should note that massive investments into new energy were an important component of a giant loan package injected into the economy in 2009-2010.

During the events of 2012, when China’s investment ardor somewhat cooled down, due to the difficult process of the transfer of power, the country, however, maintained a high level of investments into new energy. A little more than \$240 billion was invested into RES-generation in the world. Of this, \$65 billion (or 27%) was invested in China, which is a little less than in the EU as a whole, but much more than in the U.S. (34 billion) and Japan (16 billion) combined.

To a large extent, Chinese investment enthusiasm can explain the fact that developing countries have been increasing their share in the global investments into RES-generation for eight years in a row. In 2012, it reached 46% as compared to 34% in 2011. One of the reasons for this dramatic growth was the reduction in investments into

industry, by almost 30%, in the developed countries.

Currently, solar energy dominates in the structure of global investments into the RES-generation: they accounted for \$140 billion in 2012 - almost 60% of the total. Another \$80 billion were spent on wind generators, 33 billion were spent on large hydroelectric power plants.

The distribution of investments into RES-generation is somewhat different in China: hydroelectric power stations are in the first place, wind generators take the second place, and solar generation is still at the beginning of a possible spurt.

Finally, we should add another important touch. New energy and RES-generation have already created nearly 2 million jobs in the Chinese economy. That is about one third of the world total. It is not difficult to imagine what other potential this industry has, including its small forms.

As it is demonstrated by the Chinese experience, a large-scale industry is required to get society out of the urban and rural landscape of poverty, which is destructive to the environment. This can fundamentally improve the welfare of society, and prepare it for the infrastructure, information, consumer, and hence, environmental revolution, the development of which can be observed in modern China. In particular, this revolution is accompanied by fast (including forcible) reduction in the "lower" floor of industry, represented by technologically backward production. At the same time, modern industry becomes a tool helping provide the transition to new energy by creating its material basis. Folk creativity of various kinds, provided with technical support, promises many innovations in small-scale energy and expanding employment.

China has flooded foreign markets with cheaper solars, electric bicycles, etc. for several years. No applause from Western environmentalists can be heard, but there are no accusations of "devouring" the planet's resources hurled against China any more either.

We should not forget the extraordinary economy of Chinese way of life, compressed due to modest resource capabilities over the centuries. This view is skillfully exploited by the central government, turning the "green prospect" into an important element of political legitimacy (but things are frequently worse at the local level).

China's future contribution to further improvement of the planet should be possibly associated with the preservation of this view, and supporting it by modern science and technology.

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