

# TATSUO MASUDA

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## Nobuo TANAKA

Let us move to Masuda-san from the Japanese perspective.

## Tatsuo MASUDA

Following what Mr. Appert said, I want to share with you how I see the tension between China and the US from a Japanese perspective. As a historian of the Roman Empire, I have a longer-term perspective. In 1850, 50% or more of the world GDP was generated by just two countries, India and China. If history may repeat itself, the rise of China is inevitable.

My feeling is that probably people in the US with high sensitivity have realised the creeping rise of China, which is accelerating at speed. They have an uneasy feeling, not necessarily a kind of fear, that they could inevitably be overtaken by China. Before China may grow too big, they would like to do everything to slow down or deter the pace of Chinese growth. This must be a very basic sentiment of the US people, not the sole property of President Trump.

In the energy scene, many things are ongoing, and China will have no problem with securing fossil energy. Already, China has taken the initiative to increase imports of LNG from Qatar. Also, recently, China made an agreement to increase its procurement from Total from 1 million to 1.5 million tonnes per year. On the oil scene, China was the largest importer of US oil in May 2018. However, the percentage of Chinese reliance on US in oil imports is limited, therefore, it will not be a problem for China whatever may happen with oil imports from the US.

As for coal, there is a serious problem. China has been performing well in slashing coal consumption at home. However, what Chinese is doing in the name of “One Belt One Road” is the intensive exports of its coal-fired power plant technologies to countries covered by “One Belt One Road”. Here is interesting data. About 130 new coal-fired power plant projects are in progress under the Chinese initiative in those countries. The state-of-the-art technologies are not necessarily used in those cases. From 2000 to 2016, China led the construction of roughly 240 coal-fired power plant projects in those areas as well. China is becoming “Green at Home” and “Black Abroad”. This is what is happening.

However, from a climate policy perspective, China is consolidating the leading position in both the deployment of renewable energy and the establishment of a huge carbon market. Incidentally, a friend of mine, an academic in China, is designing this largest carbon market, which seems to be working well because of the size involved. China could be the leader in those two areas. One of the reasons why China is so successful in renewable energy is not just because of the government drive to clean the economy. Like in the United States, it is coming from sheer competition among many players. In this regard, the number of players really matters.

For example, in terms of the number of clean-tech companies, China had roughly 2,700 in 2005. In 2015, the number swelled to over 50,000, and today it will be far bigger. They are competing with each other very fiercely because of the size of the market. On top of this, there is government support. China has a clear advantage in technological development because of a kind of firewall around China. When Western companies come to China, China wants them to disclose their state-of-the-art technologies as well as software. This will be one of the reasons why China has been so fast in developing advanced technologies.

I went to China last year and met several PhDs working on batteries. They proudly said, “Honestly, we are way behind America, Japan, and Korea in the area of battery technologies, but we have a fleet of 300 PhDs working only on batteries. In a matter of a few years from now, we will be the champion both in battery technologies as well as the size of market deployment”.



In electric vehicles (“EVs”), China is the champion. In 2017, about 1 million new EVs were deployed into the market in the world, and more than 50% of those were in China. If you talk about global EV stocks, 40% of global stocks are now in China. In the area of other technologies, China is already the champion in artificial intelligence (“AI”) for various reasons. One of the scary stories is that China is using AI for social surveillance very successfully.

I am quite stimulated by a discussion we had about solar panels. Solar energy is good and photovoltaic could be the champion of renewable energy production in coming years. However, we should not disregard one negative side of solar panels. How much energy do you think we need? How much environmental externality is arising from purifying and crystallising silicon? Here are big questions.

Solar panels have a lifetime of roughly 20 years. After 20 years, what do we do with used solar panels? If we dump them as industrial waste, it will cause serious environmental pollution all over the world. If we completely recycle used solar panels, a massive cost is involved. Would many countries dare to bear such cost? It is becoming a big problem envisaged in Germany, Japan, and most importantly China as well as many other countries rapidly deploying solar panels. Although they are good for climate purposes, we should not forget the environmental downside.

The last point is EVs. As my company is supplying critical parts for EV, let me say something about them. EVs are pretty good, but as Professor Cooper said, it takes such a long time to replace all this existing fleet of combustion engines. However, there is a light at the end of the tunnel. If you remember the wonderful marriage of Prince Harry of the UK, he drove a blue Jaguar out from the Windsor Castle. It was a converted EV. Conversion of EVs is one brilliant idea for increasing EVs. Converting used cars into EVs costs less than making new EVs in terms of life-cycle costs. The combination of cheaper batteries with better electric motors will make conversion to EVs a big industry. I am dreaming of a world where newly produced EVs are competing with lovely converted EVs. This will ensure an accelerated deployment of EVs. With this positive note, I would like to end my story.

#### **Nobuo TANAKA**

By the way, you talk about China and coal. What is Japan’s policy about coal? Japan is still building new coal power plants, and even try to export their efficient coal plants. What do you think of Japanese policy on coal?

#### **Tatsuo MASUDA**

I am a Japanese national trained in METI. But today, allow me to speak like a foreigner. I believe the policy held by Japanese utility companies and the government about coal-fired power plants is not something recommended. In Japan, surprisingly, there are still some 40 coal-fired power plants either planned or under construction, and Japanese banks are very reluctant to stop providing loans to those facilities. In a way, Japan is 10 years behind the average Western countries in terms of climate policy. I am not criticising young engineers working on these technologies, but maybe it is time for Japan to depart from the old legacy of those technologies. Maybe Japan should fly high with some lighter and cleaner technologies.

#### **Nobuo TANAKA**

I cannot agree more, and that is the reason why I asked the question to Carlos Ghosn, Toyota or whoever. We say that these 100 renewable energy companies will probably kick coal power plants out of everywhere. That probably would happen.