



## China Riding the Green Wave

Only a couple of years ago the Americans believed that the United States can and is ready to take a lead in the green wave, in the new “Clean Tech Revolution” which was creating a “New Economy” based on renewable energy sources. The Europeans and the Chinese stayed silent.

*The New York Times* columnist Thomas L. Friedman created his own green fantasia where the fossil fuels “from hell” are replaced by such renewable sources as wind and sun “from heaven”. His missionary approach was explained in his bestseller “Hot, Flat and Crowded: Why We Need a Green Revolution – and How It Can Renew America”. Friedman was convinced that “America will again be leading”.

### American Stimulus

President Barack Obama declared that “the nation that leads the world in the 21<sup>st</sup> century clean tech energy will be the nation that leads in the 21<sup>st</sup> century economy... America must be that nation.”

The “New Energy for America” manifesto promised that 10 percent of electricity will be generated from renewable energy sources by 2012 and 25 percent by 2025.

The Obama administration saw a window of opportunity to act both on the 2008 financial crisis and, at the same time, lay foundations for a new wave of growth based on clean technologies for a low-carbon economy. While addressing both of these challenges, the administration believed that America would also get a competitive advantage in the new emerging global green market. Today President Obama is trying to use the Mexican Gulf oil spill as the case for action on his carbon trading legislation.

Business in the US and in Europe started riding its own green wave outlining new business models and strategies that would benefit their bottom line and turn green into gold.

### China Surging

Meanwhile, China was adopting clean tech measures that the West had acquired through years of painstaking trial and error. China saw also the new growth industry emerging. The Americans and the Europeans saw China emerging as the largest renewable energy market.

American World Resources Institute has been following China’s overall environmental efforts. Its spokesperson Deborah Seligsohn pointed out recently that “China has received too little credit for the steps it has already taken and its commitment to do more.”

Suddenly China has become a green challenger. It can play a long game and it has been doing this since *xin jishu geming* (new technology revolution) was launched in 1986. When I took my post as the Finnish ambassador to China in 1997 after six years at the OECD, I was surprised how closely the Chinese experts had embraced the ideas of knowledge-intensive economy and national innovation systems, which the OECD countries were struggling to adopt.

Since China has the economics of scale, politics and money, it could be better equipped than Europe or the United States to develop a clean tech industrial base. Technology that is too expensive to be profitable in the West can become an economical one in China.

The International Energy Agency (IEA) is predicting that clean tech manufacturing will “inevitably” move to China. In its October 2009 report the agency claims that “China could slow the growth of carbon dioxide emissions more quickly than is commonly assumed – thanks to the huge programme of wind and nuclear energy and emphasis on energy efficiency.”

When praising China’s “new industrial revolution”, one should remember that the scale is not enough. New clean tech ideas require an environment where especially the small, dynamic and innovative private companies can prosper and grow. In this China is still lagging behind.

Today, Chinese wind turbine and solar panel companies are pushing their manufacturing even to Texas and Arizona. Because of the huge distances to transmit electricity the Chinese are developing smart grid more aggressively than any other country – a new “sexy” industry that is attracting even such ICT giants as IBM and Cisco. As the world’s largest coal powers, China and the United States are jointly researching and commercializing CCS (carbon capture and storage), a sector where the breakthroughs would have enormous impact on our planet’s environment.

Last November the US Secretary of Energy Steven Chu pointed out that “China is spending about US \$ 9 billion a month on clean energy.

And the list goes on.

Thomas Friedman’s wake-up calls began to have a new alarming ring. The columnist claimed that “China is not out-polluting us... it is going to out-green us.”

In July 2008 Friedman blasted that “China has already adopted the most aggressive energy efficiency programme in the world.” In January this year he was almost hysterical: “I have been stunned to learn about the sheer volume of wind, solar, mass transit, nuclear and more efficient coal burning projects that have sprouted in China in just last year.”

### **Clean Tech and Business**

Also in January this year the World Economic Forum introduced the theme “New Great Game”: race to develop greener, cleaner technology. Many participants in the Davos corporate jamboree were concerned that China may be edging ahead towards “the next industrial revolution”.

American politicians are afraid that China is investing billions to remake itself as a green energy superpower and growing also in this sector to a point where it can take on the world. They see

that China is shielding its clean-energy sector with protectionist measures while its clean tech companies operating in the US use American stimulus funds and take over American green jobs.

American business and its gurus have been echoing these wake-up calls and repeating the same mantra of the “competitiveness crisis”. They are also pushing political leaders for climate action to provide certainty about the future for their investments.

The CEO of General Electrics Jeff Immelt and Kleiner-Perkins partner John Doerr wrote in a joint column last August in the *Washington Post*: “We clearly are not the in lead today – China holds that position. China’s commitment to developing clean energy technology and markets is breathtaking. China is investing ten times as much in clean power, as percentage of GDP, as the US... The US has no long-term market signal – it does not offer adequate sustained R&D funding to be a serious competitor in this huge business.”

Behind this “huge business” and big talk is, of course, a fact that GE itself made US \$ 17 billion from green products in 2008 - the 2009 estimate is US \$ 25 billion.

The American green business supports the changes the Obama’s administration has already introduced on carbon trading, research funding, energy efficiency and standards.

The American Energy Innovation Council, whose members are leaders in the US corporate world, released its green study on 10 June 2010. It urged the government to more than triple the energy R&D to US \$ 16 billion a year. In an obvious reference to the BP oil spill the report stressed that this is “a pivotal moment in US energy strategy”. The Council proposed a creation of a national energy strategy board to guide investment to “radical advances in energy tech”.

Finally the Innovation Council report repeated the popular mantra: “The best clean technologies were all born outside the US.”

This lament may refer to China but the fact is that the Europeans have already done far more with clean tech innovations than the Chinese or Americans.

### **Europe and Clean Tech Market**

Europe overall has managed to reduce its ecological footprint to half of that of the United States.

The EU governments have been working closely with private sector. They have advanced incentives and regulations to encourage the necessary green behaviour. They have introduced the “20-20-20” plan to reduce carbon emissions by 20 percent and to increase renewable energy sources of the overall energy mix to 20 percent by year 2020. The best European green performers Finland, the Netherlands and Sweden reached this goal already in 2006 and are today well above it.

However, when you take a closer look at the European competitiveness in the global clean tech market everything is not rosy and green.

Public money and generous subsidies have been pumped into the clean tech sector. But “the old continent” needs more adventurous entrepreneurship and venture capital to compete with China and the United States.

There is a myriad of reasons why Europe is now lagging behind in dynamism and creativity. Risk taking is not encouraged, red tape is still cumbersome, and start-up capital is only 8 percent of America’s. And today Europe has its own “spill disaster” in public debt. It started with “a hole” and mistrust in Greece and is now spreading to the other Mediterranean EU countries –and beyond. If it continues the certainty of sustained national support the European clean tech investors need, will evaporate.

Consequently, China will be strengthening its position as a core market and research base also for the European clean tech companies. When I have been travelling lately with Finnish clean tech companies in China I have seen this happening with their projects. They first combined local manufacturing skills with Finnish technology and know-how but they have now moved to joint research and innovation.

What these companies learn today in China will affect their business and R&D in Finland and around the world. In other words, they will ride the green wave together with their Chinese partners.