



Article by

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China Inroads supports innovative European high-tech companies with a firm foothold in the Chinese market. Whether you need support in accelerating your existing cooperation with your Chinese partner, or wish to enter the Chinese market, China Inroads is your local strategic partner in developing a successful business venture.



→ CHINA'S CIRCULAR ECONOMY: HOW TO GET ON BOARD?

In China, a boom in economic growth and a surge in output of heavy industries have resulted in high consumption of various natural resources and energy. To produce 46% of global aluminum, 50% of steel and 60% of the world's cement in 2011, China consumed more raw materials than the 34 countries of the OECD combined: 25.2 billion tons. Partly due to low energy prices, China's resource use is inefficient: China requires 2.5 kilograms of materials to generate US\$1 of GDP compared with 0.54 kilograms in OECD countries. The combination of growing consumption of raw materials and low efficiency in usage of resources results in substantial generation of waste. Furthermore, there are severe shortages of resources and energy as the growing demand in China cannot be met. Perhaps even more important, these trends have led to significant environmental problems.

To overcome this inefficient resource use, high waste generation rate and grave environmental problems, China has adopted a new development model: the 'circular economy'. Circular economy entails the realisation of a closed loop of materials flow: outputs from one manufacturer will be turned into inputs for another. This approach reduces the consumption of virgin materials and the generation of waste. Thus, it has both economic and environmental benefits.

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The circular economy policy

Although activities regarding the circular economy in China already started in 1999, the circular economy gained momentum on January 1st 2009, when the Circular Economy Promotion Law went into enactment. This serves as a fundamental law guiding all circular economy policies in China. In 2013, the State Council released a national strategy for achieving a circular economy. **Such a national strategy is unique in the world.**

The circular economy is implemented through so-called 'three circles'. At the macro-level, activities include the development of eco-cities and eco-provinces. At the meso- or inter-firm level, eco-industrial parks have been initiated so that firms can trade industrial by-products such as heat energy, wastewater and manufacturing wastes. **At the micro- or firm-level, several activities are important: eco-design, cleaner production and waste management.** Eco-design encourages companies to generate more integrated, efficient, and sustainable ways for production through innovative design. Cleaner production is a strategy for addressing the generation of pollution as well as the efficient use of resources at all stages of the production cycle. Finally, waste management is increasingly perceived as a way to recover resources and prevent environmental impact.



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An example of an enterprise that is active in China in waste management is Netspring, a foreign owned social enterprise that started in 2012. Their goal is to reduce e-waste pollution by re-using computers and other electronics to build IT classrooms as part of a digital inclusion program for children in rural areas and migrant children. According to Clotilde Pallier from Netspring, if you use low quality electronics for such classrooms, it only lasts for a short amount of time and requires too much maintenance. Thus, only high-quality e-waste is used for the classrooms, e-waste with a lower quality is dismantled by their partner, TES-AMM Shanghai. They handle the recovery, disposal and recycling of e-waste, making sure that as much as possible is reused.

What opportunities does this bring for European enterprises?

Implementation of the circular economy requires advanced technology for eco-design, clean production and waste management. Such advanced technologies are currently lacking in China, creating opportunities for European enterprises. The Chinese government is open to such international cooperation. This becomes apparent in their circular economy policies and 5-Year Plans, but also from more concrete initiatives. For example, they have organized a competition to determine the Top 100 Best Environmental Technologies of the world, called 3iPet. The goal of this competition is to promote both foreign and Chinese technologies that prevent and control air, water and soil pollution. Furthermore, recently the China International Circular Economy Exhibition was held in Beijing, where several European companies had the opportunity to showcase their technologies.

Especially the following sectors present a lot of opportunities: coal, power, steel, nonferrous metals, petroleum & petrochemicals, chemicals, building materials, paper, food and textile. These sectors are given priority in the implementation of the circular economy, as these sectors cause a lot of pollution. If firms in these sectors do not comply to the new standards, they face penalties from the government or will be shut down. Thus, technology is required in these sectors for companies to meet these standards.

However, there are also many opportunities in other sectors, such as e-waste. Kevin Chie from TES-AMM Shanghai mentions that there is a need for technology to process e-waste. They especially need pollution control technology, such as waste water treatment. They have cooperated with foreign technology providers in the past, especially for more advanced technology. Because electronics evolve very quickly and new materials are constantly used, the technology for the processing of e-waste must become more sophisticated. This technology is currently not available in China, bringing opportunities to foreign enterprises.

Another area where the circular economy shows a lot of opportunities is the plastic recycling industry. NGR is active in this sector. They provide equipment for plastic recycling, mainly for post-industrial applications. They take plastic scrap and put it back into the life cycle, ensuring a circular life of plastic. Wolfgang Stanek from NGR sees that things are quickly changing in the plastic industry in China. In the future, they plan to focus more on post-consumer plastic, as this market shows a lot of demand.



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What challenges can be encountered?

First of all, it can be difficult to match demand and supply. Kevin Chie from TES-AMM Shanghai mentions that finding reliable information on emerging e-waste technology forms a challenge, making it difficult to find a good supplier. Wolfgang Stanek from NGR argues that a good strategy is needed to find a suitable Chinese partner. According to him, it is not just what you show in a brochure or on your website what matters. **It is important to have a strong network to convince people of the added value of your technology while entering the Chinese market.** Furthermore, Chinese firms are interested in finding low-cost solutions, as they experience strong competition. This might ask for more flexible solutions, instead of a turn-key solution. Furthermore, Kevin Chie from TES-AMM mentions that services such as maintenance does not particularly interest Chinese firms. They prefer a local company to do this, as this is cheaper. Thus, it is important to have a cooperation model that is interesting to both parties. Finally, it can be challenging to understand the Chinese business culture. Wolfgang Stanek from NGR mentions that it is important to understand the Chinese mentality and read between the lines.

Are you interested in learning how you can be a part of the circular economy in China? We have an extensive network in China and a local team in Beijing and Shanghai. We can help you find a suitable partner and read between the lines to find solutions for a win-win cooperation.

For more information on our services, please visit our website: www.chinainroads.com