



The integration of Chinese and European renewable energy markets: The role of Chinese foreign direct investments



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HIGHLIGHTS

- A map of *Where to Where* of Chinese investments in Europe is depicted.
- Characteristics of home and host regions affect Chinese integration in Europe.
- Investment pairs in renewable energy sectors reflect a duality.
- Chinese firms localize in EU countries with similar institutional environment.
- Through a *Who to Where* analysis, key features of Chinese investors are outlined.

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ABSTRACT

In the renewable energy (RE) sectors, foreign direct investments are becoming an important mean of regional integration between China and Europe, as a result of the combined effect of Europe–China dialog on energy issues; Chinese energy policy; and Chinese *Go Global* policy.

Using a firm level data set from the Chinese Ministry of Commerce, we perform an analysis on location choice by Chinese RE firms from 2004 to 2013, within Europe. We depict a map of “where to where” (home province vs. host country) and “who to where” (firm level characteristics vs. host country), to find out how characteristics of home and host regions affecting the integration of Chinese and European RE markets.

Main results are the following. Investment pairs in RE sectors reflect a duality: firms tend to seek countries with similar institutional environment, compared with their origin regions. Countries with weak and immature institutions are attractive for immature and inexperienced Chinese firms.

Main features of Chinese investors are the following: private, non-listed firms, entering through greenfield, focusing on sales. Market-seeking investors tend to enter countries with both well-developed institutional environment and industry development base. R&D-oriented investments are more likely to flow to countries with well-developed institutional environment.

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1. Introduction

Europe¹ and China are leading investors in the renewable energy (RE) field: they covered 60% of global new investments in 2012 (Frankfurt School-UNEP Centre/BNEF, 2013: 22). Understanding major issues and emerging trends in Europe–China relations is therefore relevant to grasp actual and expected evolution

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¹ In the paper we consider European Union (28) countries. We use the wording Europe and European Union as synonyms.

of the RE market.

One key aspect has to do with the ongoing economic diplomacy initiatives and policy dialog in place, as well as with Chinese economic policies supporting a more sustainable (environmental friendly) economic growth model. At the same time, from the Chinese side, a key policy tool influencing bilateral relations with Europe is the *Go Global* policy. Officially launched in the *10th Five-Year Plan*, the *Go Global* encourages firms to invest overseas, to secure resources, technologies, brands, new destination markets and become more and more competitive in the global arena (Bellabona and Spigarelli, 2007). Supportive measures range from financial and fiscal aid, to operating services and assistance (Spigarelli, 2010). Within this framework, the government has recently

started to encourage outward investments also in the green technology sectors (Yao and Chang, 2014). European destinations, also thanks to the opportunities brought by the financial crisis, are becoming preferential targets: market access and technological spillovers are easy to achieve. Europe, in fact, owns significant competitive advantages in the field. After the Renewable Energy Directive (2009/28/EC), and in the light of Europe 2020 targets, RE sectors are expanding rapidly, both from a supply and demand side perspective (Observ'Er, 2013).² Several European countries, as Germany, Italy, UK, and France are among the world largest investors in RE sectors (Frankfurt School-UNEP Centre/BNEF, 2013: 23). They have competitive industries and global players. Partnering with them, Chinese firms could strengthen their competitive advantages. At the same time, Europe can offer a huge potential market to young and competitive Chinese firms. In some cases, Europe has already become the first market for sales for Chinese global firms.³

Following such recent trends, this paper sheds light on Chinese foreign direct investments in Europe. It is a preliminary, but significant, step of a broader study on China and Europe market integration in the RE field. It is part of a research project focused on Europe–China cooperation in the RE and environmental industries.⁴

The attention here is limited to Chinese investments in Europe, in order to clearly define the scope of the phenomenon, thanks to a unique firm level data set provided by the Chinese Ministry of Commerce (MofCom). The topic has several policy implications, mostly related to: ongoing negotiation of investment agreement between Europe and China; type of approach on investment promotion actions developed at country level; regional policies to deal with integration of foreign investors in local industrial districts; impact of growing Chinese investments on the competitiveness of RE industries in Europe.

1.1. Europe–China policy dialog on energy and environment

The increasing number of Chinese firms investing in Europe is a new step forward the economic integration of China and Europe, that already share the primacy of one of the most importance trade partnership in the world (Xin, 2013). The intensification of flows of goods, after China's accession to the WTO (Curran, 2009: 172), has gone hand in hand with an extensive political and economic cooperation involving several key issues. Dialogs, institutional cooperation programs, as well as joint initiatives on climate change, energy and environment (De Matteis, 2010) give evidence of the increasing interconnection between Europe and China in addressing the issues of energy savings and sustainability of growth (see Table 1). Since 2005, a *High-Level Annual Energy Dialog* is in place and one of the key areas of cooperation is specifically related to RE, along with smart grids, energy efficiency in the building sector, clean coal, nuclear energy and energy law. More recently, RE and its use in the urban context was set as a milestone

in the *EU–China Joint Declaration on Energy Security*, signed during the last EU–China Summit on November 21st 2013.⁵

1.2. China going green: emerging policy trends in the RE sectors

Chinese extensive cooperation at international level has coupled with internal efforts for a more sustainable growth, also based on a smart use of energy resources. Energy policy has been playing a key role in the new Chinese economic policy planning, therefore. The *12th Five-Year Plan* has set strict targets, to move to a more sustainable model of development for the Chinese society (KPMG, 2011). Some targets have to do with emissions, others with the energy mix. The Plan has set measures to face environment issues in the country, involving simultaneously key policy areas such as “economic restructuring”, “social equality”, “energy and environment”.

The National Energy Administration issued the *Development Plan for Renewable Energy*, during the *12th Five-Year Plan*, as well as four different plans for hydropower, wind power, solar power and biomass energy, to develop policies and state goals to be achieved by 2015 (NDRC, 2012a: 29). As pointed out by the literature, China urgently needs to boost alternative energy sources, to reduce carbon dioxide emissions (Yao and Chang, 2014).

Indeed, China's efforts to support the use of renewable energy are not recent. After the launch of *Agenda 21* in 1992, the government has clearly supported, through specific measures, the development of energy technology (Yao and Chang, 2014).

Considering that sustainability of industrial growth, together with health and safety of population, is a priority for the government (China Greentech Initiative, 2013: 69), all dimensions of energy security have been implemented: from availability of energy resources, applicability of technology, societal acceptability, to affordability of energy resources (Yao and Chang, 2014).

As for the legal framework, many laws and regulations have been approved in an attempt to remedy the situation of pollution. The most important interventions in the law field include: the “Law on Prevention and Control of Atmospheric Pollution”, the “Environmental Impact Assessment Law”, the “Cleaner Production Promotion Law”, the “Renewable Energy Law”, the “Energy Conservation Law”, the “Water Pollution Control Law”, the “Circular Economy Promotion Law”, and the “Vehicles and Ships Tax Law” (EU SME Center, 2014: 1). Recently, in April 2014, the China's Environmental Protection Law (EPL), dated 1989, has been amended. The revisions, which will come into effect on January 2015, involve: monitoring of both the environment and health; improved survey and risk assessment mechanisms; and more severe punishments for polluting (Tiezzi, 2014).

Recently, the Third Plenary Session of the 18th Communist Party of China has confirmed and strengthened measures to support China commitment and has placed environmental issues as the top priority of reforms.⁶

1.3. Chinese global investments: a new trend in the RE sectors

As a result of the above mentioned measures, the Chinese green industry has been growing year by year on size and competitiveness, “seeking to produce environment-friendly products which should benefit the natural environment by adopting clean production technology and using harmless or less harmful new techniques, energy resources, and technology” (EU SME Center, 2014: 1). China is now leading many green-tech areas of the global

² In Europe, the share of gross final energy consumption has already increased by 5 points since 2006, from 9% to 14% (Observ'Er, 2013).

³ Yingli Green Energy is world leader in solar energy industry and world's largest photovoltaic module manufacturer. It has 10 international branches (1 in Germany) and 16,000 employees in the world. 61.8% of net revenues in 2011 and 60.3% in 2012 are related to sales in Europe. See Yingli Green Energy (2013), p. 8.

⁴ The project is Poreen (www.poreen.eu), a European funded project on Europe–China cooperation opportunities in the green industries. With a multidisciplinary approach, gathering legal experts, engineers and economist, we investigate several aspects of Chinese and Europe integration in the environmental related sectors. In the economic areas, key studies in place are related to host and home country effects shaping investments trends both in Europe (Lv and Spigarelli, 2014) and in China, as well as the role of investment rules and trade agreements governing cross border investments (Kubny et al., 2011).

⁵ See: http://eeas.europa.eu/delegations/china/documents/eu_china/131121_eu_china_joint_declaration_energy_security_en.pdf.

⁶ <http://english.cntv.cn/special/18thpcsession/homepage/index.shtml>.

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