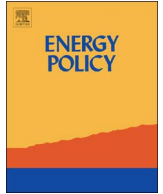




Contents lists available at ScienceDirect

## Energy Policy

journal homepage: [www.elsevier.com/locate/enpol](http://www.elsevier.com/locate/enpol)

# Chinese investment in the EU renewable energy sector: Motives, synergies and policy implications

Louise Curran <sup>a,\*</sup>, Ping Lv <sup>b</sup>, Francesca Spigarelli <sup>c</sup>

<sup>a</sup> Université de Toulouse, Toulouse Business School, Toulouse, France

<sup>b</sup> University of Chinese Academy of Sciences, Beijing, China

<sup>c</sup> University of Macerata, Macerata, Italy

## HIGHLIGHTS

- Chinese investments in solar and wind in Europe are concentrated in Germany.
- Large increases in trade and investment were followed by rapid falls since 2012–13.
- These falls seem to be related to market difficulties.
- Key investment entry mode is greenfield and motivation is market seeking.
- In acquisitions, technology seeking plays a key role.

## ARTICLE INFO

### Article history:

Received 25 January 2016

Received in revised form

1 September 2016

Accepted 9 September 2016

### Keywords:

Renewable energy

FDI

EU-China relations

## ABSTRACT

This paper addresses three questions: how have trade and investment in wind and solar sectors evolved between the EU and China in recent years? Is there a link between rising trade conflicts and trade and investment trends? And what wider motivations and synergies can be identified in Chinese investments in the EU's RE sector? To address these questions we analyze trade and investment data, as well as qualitative data, including information from media and company reports. Large increases in trade and investment were followed by rapid falls since 2012–13. Trade tensions have not led to increases in investment, rather the inverse. We find that Chinese investment in these two sectors is very concentrated in Germany. The key motivation for investment is market seeking, although R+D is also important, especially for wind. Most investments are greenfield, a preference that has persisted over time. Our qualitative analysis of several key acquisitions indicates that technology integration and the consolidation of capacities across the supply chain were key motivations in most of the cases studied. We conclude with some policy orientations.

© 2016 Elsevier Ltd. All rights reserved.

## 1. Introduction

The EU has historically been at the forefront of technological development and investment in the renewable energy (RE) sector (EC2, 2015). Faced with accelerating climate change, it has set a series of binding targets, including its most recent objective to secure 27% of energy from renewable sources by 2030 (CEC, 2014a). This has fostered government incentives, both for research on new RE technologies and to encourage

more widespread uptake of existing solutions by individuals and enterprises. Thanks to this supportive policy environment, the EU has become the key market for RE technologies, which has been fundamental to the evolution of many leading edge European RE firms.

At the same time, since the 11th Five Year Plan, the Chinese government has grounded the Chinese strategy for growth on green development (Boyd, 2012). Supportive measures in green technology and the RE industries have increased. China is currently the most important investor in alternative sources of energy, with 30% of the global total in 2014 (Mc Crone et al., 2015). As a result, Chinese companies have become increasingly competitive and active in the sector. A combination of support through home government incentives for production and uptake and the growing EU market, encouraged many of these

\* Corresponding author.

E-mail addresses: [lcurran@tbs-education.fr](mailto:lcurran@tbs-education.fr) (L. Curran), [lvping@ucas.ac.cn](mailto:lvping@ucas.ac.cn) (P. Lv), [spigarelli@unimc.it](mailto:spigarelli@unimc.it) (F. Spigarelli).

<http://dx.doi.org/10.1016/j.enpol.2016.09.018>  
0301-4215/© 2016 Elsevier Ltd. All rights reserved.

companies to engage in outward foreign direct investment (OFDI).<sup>1</sup>

Indeed, a combination of increasing environmental awareness in China and economic difficulties in Europe has created a climate which is increasingly conducive to Chinese investment in the sector. On the one hand, China recognizes the need to increase the uptake of cleaner RE sources if they are to address the major environmental challenges their country faces. On the other hand, the recession in Europe and attendant pressure on public expenditure has forced many governments to reduce public support for the industry (Martínez Alonso, et al., 2016), creating difficulties for the sector and forcing companies to look to new markets for growth. As Gippner and Torney (in this issue) point out, these shifts mean that EU and Chinese policy frames are converging. Against this background, the increasing investment in EU RE by Chinese companies clearly has the potential to create synergies between the two industries (Urban et al., 2015).

However, the sector has been subject to several bilateral trade conflicts, which have complicated the relationship and highlighted tensions between government policies which support consumption, compared to those that support production (Haley and Schuler, 2011; Kolk and Curran, forthcoming; Lewis, 2014a). Faced with actual and potential trading restrictions, investment can be an alternative to trade (Filippaios and Kottaridi, 2013; Gage and Miroudot, 2005; Hsieh et al., 2014). Thus new trade barriers, while reducing trade, may foster increased FDI. We wished to explore whether there was evidence for such a relationship in this case.

This paper explores the evolution of bilateral trade and investments in RE sector in the last decade (2004–2014), in the light of the growing integration of the European and Chinese RE industry. In particular, we explore the extent of OFDI from China to the EU,<sup>2</sup> its motivations and evolution over time, as well as its role compared to trade. To this end, we address the following questions:

- (1) How have trade and investment evolved between the EU and China in recent years?
- (2) Is there a link between rising trade conflicts and trade and investment trends?
- (3) What wider motivations and synergies can be identified in Chinese investments in the EU's RE sector?

In our study, we specifically focus on the solar (primarily photovoltaic – PV) and wind energy sub sectors of the RE industry, due to their importance in Europe–China trade and investment cooperation. They are key sectors where China has a competitive advantage at world level, as well as those where trade disputes emerged in recent years. Although they represented only 0.66% of EU imports from China in 2014, the level was 4.3% in 2010. Most significantly, 80% of Chinese investments in the EU RE industry in the last decade were in these sub sectors.

The paper is structured as follows: after a background and literature review on Chinese OFDI, the link between trade protection and FDI and the RE industry in China, we provide some information on our methodology and data. We then analyze trade trends in the light of recent trade disputes and the debate on RE support

structures. In the following section we analyze Chinese investments in Europe, using both quantitative and qualitative data to assess, not only trends but also motivations, synergies and opportunities. We conclude with some observations on the remaining challenges for investors and some suggestions for policy to ensure mutual benefits for both Chinese investors and EU industry.

## 2. Background and literature review

### 2.1. Research on Chinese OFDI

As Chinese investment in Western markets has increased, research on the phenomenon has also grown (see Deng, 2012 for a comprehensive review). Several studies have looked at the motivations of Chinese investments abroad. Luo and Tung (2007), in their springboard perspective, consider that emerging market multinationals go global to acquire specific ownership advantages, while (Mathews, 2002) in his linkage-leverage-learning model, highlights that Chinese companies use internationalization as a means to acquire complementary assets. Empirical analysis of Chinese FDI indicates that it is motivated mostly by resource-seeking in emerging or developing economies (Buckley et al., 2007; Hurst, 2011; Sanfilippo, 2010; Kolstad and Wiig, 2012), while market-seeking goals prevail in developed country markets (Buckley et al., 2007; Cheung and Qian, 2008; Deng, 2009; Hurst, 2011; Kolstad and Wiig, 2012; Amighini et al., 2013a; Alon et al., 2014). Chinese firms may look for new outlet markets for their goods, to escape the internal market that is often quite saturated. Although host country market size is always important for Chinese investors, it is more pertinent in certain sectors (Amighini et al., 2011). In the specific case of the RE industry, several Chinese firms face over-capacity problems, partly as a result of historical government support structures. Accessing a large market secures outlets for their large production capacity and further increases economies of scale (Haley and Schuler, 2011).

The research referred to above, indicates that the availability of key resources abroad is an important motivator of Chinese OFDI (e.g. Buckley et al., 2007), however this goes beyond traditional natural resources like minerals or land. Asset-seeking FDI, where Chinese investors acquire advanced technologies and human capital, is increasing (Amighini et al., 2011; Fernandez and Garcia, in this issue; Vecchi and Brennan, 2014). This is particularly so in technology-intensive sectors (Lu et al., 2011).

Strategic motivation, together with firm's strategic fit in the host industry, can also impact on FDI entry mode (e.g. Cui and Jiang, 2009; Lin, 2010; Voss et al., 2010). In particular, while Mergers and Acquisitions (M&As) and greenfield investments are the most common entry modes for Chinese OFDI (Child and Rodrigues, 2005), the choice between the two is affected by the strategic goals of the internationalization. Several studies of Chinese OFDI highlight the prevalence of M&As (Antkiewicz and Whalley, 2007; Gliberman and Shapiro, 2009; Sutherland, 2009), which allow firms to rapidly acquire brands and technology (Deng, 2009; Rui and Yip, 2008). Nevertheless, behavior seems to be contingent on the sector. In the case of large Chinese oil and gas companies, M&A prevail because of the need to avoid huge transaction costs (Liou, 2009; Obi, 2008). In the case of Chinese OFDI in the RE sector however, Lv and Spigarelli (2016) find a prevalence of greenfield entry mode in Europe, this seems to be linked to the market seeking motivation underlying this FDI. They also find that these investments tend to be concentrated in countries which are rich in technology and know-how. Technological supremacy in RE is often linked to government incentive structures, as in the case of Germany, Spain and Italy (Haley and Schuler, 2011; Lv and Spigarelli, 2015). Lv and Spigarelli (2015)

<sup>1</sup> In the context of booming Chinese investments abroad, in 2014, Europe became a major destination for Chinese firms, with investment flows worth \$9.8 billion. China has invested in all 28 Member States of the EU (MofCom, 2015), but most investments are still concentrated in the UK, Germany and France. Energy was a key sector for investment. Recent analysis indicates that cumulative investments in the sector represented \$17bn – 28% of all Chinese FDI between 2000 and 2014 – with \$3bn of that in RE (Baker and McKenzie, 2015).

<sup>2</sup> In this paper, we use European Union and Europe as synonyms. All analyzes and information refer to the EU – 28 countries.

Download English Version:

<https://daneshyari.com/en/article/5105944>

Download Persian Version:

<https://daneshyari.com/article/5105944>

[Daneshyari.com](https://daneshyari.com)