

Accepted Manuscript

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PII: S0959-6526(17)31071-5

DOI: [10.1016/j.jclepro.2017.05.131](https://doi.org/10.1016/j.jclepro.2017.05.131)

Reference: JCLP 9670

To appear in: *Journal of Cleaner Production*

Received Date: 22 January 2017

Revised Date: 6 May 2017

Accepted Date: 23 May 2017

Please cite this article as: Yang Q, Geng Y, Dong H, Zhang J, Yu X, Sun L, Lu X, Chen Y, Effect of environmental regulations on China's graphite export, *Journal of Cleaner Production* (2017), doi: 10.1016/j.jclepro.2017.05.131.

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Effect of environmental regulations on China's graphite export

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Abstract: The disparity between import and export prices of China's graphite products indicates that China suffers a heavy loss of graphite resources. China's graphite resource abundance doesn't transform into an economic advantage. This paper tries to promote sustainable use of China's graphite resources by investigating the effect of environmental regulations on China's graphite resource export. Based on the gravity model and the panel data of the top 30 countries that imported graphite resources from China during 2005-2014, economical mass, population, graphite export price, export duty refund (EDR), language, recession and political conflicts are selected as measurable indicators of environmental regulations to study how the corresponding changes affect graphite export values. The results demonstrate that the determinants of China's graphite export values include economical mass, export price, export duty refund, and language. Policy recommendations are then raised in order to improve sustainable development of China's graphite industry.

Key words: environmental regulations; China's graphite export; gravity model

1. Introduction

Graphite is a polymorph mineral and a stable form of carbon (Vovchenko et al., 2007). Due to its unique physical and chemical properties, it has been widely used in both traditional and modern industries. It is estimated that China's graphite demand will reach 100 million tons in 2020, increased by 42.5% relative to the 2010 level (Gao et al., 2015). According to the United States Geological Survey (USGS), China's graphite reserve is the largest in the world. Meanwhile, China is the largest graphite producer and exporter in the world (Bai et al., 2015). However, China's

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