

China's coal demand is becoming more price elastic

Paul J. Burke ^{a*} and Hua Liao ^{b, c}

^a Arndt-Corden Department of Economics, Australian National University, Canberra, ACT 0200, Australia

^b School of Management and Economics, Beijing Institute of Technology, Beijing 100081, China

^c Center for Energy and Environmental Policy Research, Beijing Institute of Technology, Beijing 100081, China

* Corresponding author. E-mail: paul.j.burke@anu.edu.au. Telephone: +61 2 6125 6566

July 2014

China's use of coal is a major contributor to local and global environmental problems. In this paper we estimate the price elasticity of demand for coal in China using a panel of province-level data for the period 1998-2012. Our results indicate that coal demand was insensitive to price in the early years of our panel, but has become more price elastic over time as the sector and China's economy have become increasingly marketized. The coal price elasticity of demand in China is currently in the range -0.4 to -0.8 when responses over a two-year period are considered. The results imply that price-based approaches are becoming an increasingly relevant policy option for reducing China's emissions from coal. We estimate that the elimination of coal consumption subsidies in China would reduce coal use and related emissions by around 2%.

Keywords: coal, price elasticity, demand, China, provincial

JEL classification: O13, Q41, P28, Q48

Acknowledgements: We are grateful for comments from Ryan Edwards and Frank Jotzo and for research funding from the Australia-China Research Program on Climate Change Mitigation Policy, the CAS Strategic Priority Research Program (No. XDA05150600), and the National Natural Science Foundation of China (No. 71322306, 71273027). The paper also benefitted from comments received at several presentations, including at the Australian National University, Beijing Institute of Technology, Renmin University, and the International Energy Workshop 2014.