Resources and Sustainable Development

Selected, peer reviewed papers from the 2013 2nd International Conference on Energy and Environmental Protection (ICEEP 2013), April 19-21, 2013, Guilin, China

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1. Auflage

Trans Tech Publications 2013

Verlag C.H. Beck im Internet: www.beck.de ISBN 978 3 03785 744 1

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The Impact on Carbon Emissions of Xinjiang's Population Structure Y.Y. Guo, X.Y. Ma and A.D.L. Tu Er Gong	1956
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