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An energy-centric theory of agglomeration

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## ACCEPTED MANUSCRIPT

An Energy-centric Theory of Agglomeration

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#### **Abstract**

This paper sets out a simple spatial model of energy exploitation to ask how the location and productivity of energy resources affects the distribution of economic activity across geographic space. By combining elements from energy economics and economic geography we link the productivity of energy resources to the incentives for economic activity to agglomerate. We find a novel scaling law links the productivity of energy resources to population sizes, while rivers and roads effectively magnify productivity. We show how our theory's predictions concerning a single core, aggregate to predictions over regional landscapes and city size distributions at the country level.

Keywords: Energy, Geography, Agglomeration, Economic History

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