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REGULATING THE UNKNOWN: THE CASE OF COOLING TECHNOLOGIES ACROSS AFRICA

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Abstract – The impacts of climate change and the resources to adapt to it are unequally distributed. Africa, the hottest and poorest continent, is already being adversely affected by rising temperatures; a trend that will continue. Building climate resilience is a bigger challenge in Africa than anywhere else. When it comes to climate adaptation, cooling technologies – including fans and air conditioners (AC) – have been shown to improve the quality of life. In rapidly urbanising and warming Africa, the widespread deployment of cooling technologies could save millions of lives in the coming decades. At this point, however, AC adaptation rates in Africa are only in the single digits with less than 5 %. In contrast, 88 % of households in the US, the country with one of the highest AC penetration rates, have an air conditioner. This is about to change as the number of air conditioners and cooling fans in Africa are expected to double this decade. We should therefore expect an exponential increase in the demand for electricity for these technologies in the coming decades. This raises the important question of where Africa will be on the AC energy efficiency frontier. At this point, Africa imports most of its cooling technology from global companies in China, Japan, South Korea and the US. The quality these companies choose to offer in the current African market will shape the continent's equipment stock and electricity demand for years to come. There are currently only a few regulations in Africa encouraging the diffusion of energy-efficient cooling technologies. Worse still, there is a lack of basic information needed to introduce the right regulations. The aim of this paper is to show that consumers currently have limited access to information about the energy consumption of the cooling technologies available in Africa. To demonstrate this, the authors built a novel database by scraping Africa's largest e-commerce platform in 13 different countries over a period of more than three years. Overall, it was found that less than 10 % of all ACs offered ($N = 1382$) have information related to energy consumption. In addition, we discovered that the disclosure of this information is highly idiosyncratic and does not appear to have strategic goals. In particular, it is unlikely that only the most efficient AC models would provide the information and that the communication of energy information in the market would occur without government intervention.

Keywords – Africa; climate change adaptation; energy efficiency in buildings

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