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Failures in Adopting Green Technology Under Perfect Pollution Pricing and Monopoly

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Abstract

The regulation of environmental externalities via pollution pricing is a mainstay of many environmental economics texts. Internalizing the cost of pollution leads firms to reduce output to the efficient quantity. However, firms often make decisions other than quantity, such as a choice of which technology to use in production, and studying these choices is often mathematically challenging for undergraduates.

One result from this literature is that markets characterized by imperfect competition may not adopt less-polluting production processes - green technology - even when the green technology confers net benefits on society. I present a simple argument to illustrate how a basic monopoly will continue to use a dirty production technology in the presence of a known superior green technology, even when subject to a perfectly internalizing pollution tax, without appealing to further technological or informational market failures.

*Department of Economics, Acadia University, andrew.davis@acadiau.ca. I extend sincere thanks to two diligent referees. Any remaining errors are strictly my own.

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