



Optimal Asset Replacement During the Transition to a Low-Carbon Economy: A Discussion of Key Variables

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ABSTRACT

With the 2050 target under the UN Paris Climate Accord to keep temperatures from rising above 2°C, almost all energy sources will need to emit close to zero CO₂. Thus, companies need to mitigate CO₂ emissions by making their transportation, manufacturing processes and machinery all less carbon intensive. For this to be done effectively, new analytic tools must be developed. Financial analysis provides an excellent method for making cost-effective asset replacement decisions, but these decisions must also be carbon-effective. In addition to being lowest cost or highest profit, replacement decisions must also target the lowest possible carbon emission path. We denote this as being transition carbon-efficient. In this paper we explore the key variables and policy adaptations that should be considered to make carbon-efficient asset replacement decisions during the transition to a low-carbon economy.

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