

# R&D in Clean Technology: A Project Choice Model with Learning

Koki Oikawa and Shunsuke Managi

## Abstract

This paper formulates an R&D project choice model with learning about potential of each project where the old dirty technology will be replaced by a new clean technology after the completion of R&D, and examines the impacts of R&D subsidy and Pigouvian tax on efficiency in the R&D process. We show that the impact of R&D stimulating policy on learning efficiency is sizable, thus the best R&D subsidy is higher than that considering only external costs from the old technology. We also show that Pigouvian tax on the old technology distorts the project choice and that selective subsidy deteriorates learning efficiency.