

**Energy Economics**

Volume 33, Issue 3, May 2011, Pages 419-425

R&D and abatement under environmental liability law: Comparing incentives under strict liability and negligence if compensation differs from harm

**Alfred Endres<sup>a</sup> and Tim Friehe<sup>b</sup>**

<sup>a</sup> University of Hagen, Department of Economics, Profilstr. 8, 58084 Hagen, Germany

<sup>b</sup> University of Konstanz, Department of Economics, Box D 136, 78457 Konstanz, Germany

**Abstract**

This paper analyzes equilibrium R&D in pollution control and equilibrium pollution abatement by polluters who are subject to environmental liability law when the level of compensation differs from the level of environmental harm. We contrast the performance of strict liability with that of the negligence rule. Privately optimal levels necessarily deviate from socially optimal ones under strict liability, whereas private decisions are first-best under negligence unless compensation is much smaller than harm. It is established that the way in which privately optimal R&D deviates from the first-best level depends on the kind of technical change in pollution abatement. Counterintuitively polluters might overinvest into R&D in pollution control if compensation falls short of harm, and may underinvest if compensation exceeds harm.