

## 环境政策工具比较：基于企业减排的视角

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## Comparative research on environmental policy instruments: Enterprise emission abatement perspective

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**摘要** 论文采用企业最优规划模型, 通过比较研究方法分析了污染税、可交易污染许可、污染排放标准和减排补贴对企业减排行为的影响、对企业技术更新的激励效果、对污染排放总量的控制 and 政策实施成本. 研究表明: 减排的主要影响因素是减排的技术能力和环境政策的严厉程度; 污染谎报问题的主要影响因素是环境政策的严厉程度和政府监管力度, 而与减排的技术能力无关; 在技术更新的激励效果方面, 完全遵守的污染排放标准是最优的、其次是不完全遵守的污染排放标准、再次是污染税和减排补贴、可交易污染许可效果最差; 在污染排放总量控制方面, 若企业存在技术改进可能, 污染税、减排补贴和污染排放标准可以达到相同的政策效果, 可交易污染许可的效果最差, 若企业保持现有技术水平不变, 则污染税、可交易污染许可、减排补贴和污染排放标准可以达到相同的政策效果; 在政策实施成本方面, 污染税、减排补贴和污染排放标准具有相同的实施成本, 可交易污染许可的实施成本最低.

**关键词:** 减排 环境污染 环境政策工具 技术更新 实施成本

**Abstract:** The enterprise optimal plan model and comparative analysis are adopted in this paper to analyze the effects of pollution taxes, marketable emission permits, pollution standards and abatement subsidies on enterprise emission abatement, technology adoption incentives, the aggregate emission and the implement cost of the four environmental policy instruments. Conclusions are as follows: the major influences of enterprise abatement are technology adoption ability and the rigorousness of environmental policy; the major influences of the enterprise violation are the rigorousness of environmental policy and the government monitoring while independent of abatement technology adoption. From the technology adoption incentives, pollution standards with perfect compliance is higher than pollution standards with imperfect compliance which is higher than pollution taxes, pollution taxes is equal to abatement subsidies which is higher than tradable emission permit; from the control on the aggregate emission, on the possibility of technology improvements, pollution taxes, abatement subsidies and pollution standards will be the same, however, tradable emission permit is the worst, if the enterprises maintain the current technology, pollution taxes, abatement subsidies, marketable pollution permits and pollution standards will have the same policy effects. From the enforcement cost of different environmental policy instruments, pollution taxes, abatement subsidies and pollution standards are the same, while tradable emission permit will be the lowest in enforcement cost.

**Key words:** abatement environmental pollution environmental policy instruments technology innovation enforcement costs

收稿日期: 2010-12-13;

基金资助: 国家社会科学基金(10CJY028); 国家自然科学基金(70973121); 中央高校专项资金(2010W2); 徐州市软科学项目(XF11C116)

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