揮發性有機物空污費政策與排放交易制度合併推行之可行性評估

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摘　要

隨著我國經濟成長，環境負荷亦日益加重，政府在積極推動各項相關空氣污染管制措施下，空氣品質不良比例雖逐漸下降，但在臭氧（O_3）濃度上卻有逐漸惡化之趨勢，因揮發性有機物（Volatile Organic Compounds, VOCs）為造成臭氧污染之主要前趨污染物，故揮發性有機物之減量、管制對策及其可行之控制技術等，遂成為當前重要課題之一。環保署為解決我國日 益嚴重之臭氧污染問題，自96 年 1 月 1 日起徵收 VOCs 空污費，希望鼓勵業者能主動進行 VOCs 之減量及改善，並達到降低整體 VOCs 排放量之目標。

本研究選擇以新竹市作為整體規劃區域，針對現行之空污費徵收制度與未來可行之排放交易制度合併執行進行評估比較，利用本研究收集之國內實廠污染防制設備之初期投資與後續維護等相關成本資料，計算 VOCs 去除所需花費之平均成本，以比較執行不同政策下區域之 VOCs 削減情形、業者負擔成本及政府空污費變化，最後探討空污費徵收制度與排放交易制度合併推行之經濟可行性。

研究結果顯示， VOCs 空污費與排放交易政策合併推行下之污染減量效果相較現行單純空污費制度為佳，且對業者之污染投資成本衝擊較低，唯在合併政策下會使政府空污費收支驟減，係因鼓勵投資污染防制設備減量並進行交易下之結果，因此在不違背政府減污策略下，合併推行 VOCs 空污費與排放交易政策可讓業者自行選擇對其有利方式來達到實質減量之效益，實可為未來相關政策擬定之參考。

關鍵字: 空氣品質、排放交易、空污費、揮發性有機物、經濟誘因

Feasibility of Combining Emissions Trading with Air Pollution Fee System of VOCs

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ABSTRACT

In Taiwan, the environmental loading is growing with the growth of economics. With the promotion of various air pollution control strategies by Taiwan EPA, the air quality is getting better for most of the criteria air pollutants, but the O_3 concentration in the ambient air is continuously increasing. The VOCs (Volatile Organic Compounds) is one of the most important O_3 precursors, therefore the reduction of VOCs is a key issue to reduce the O_3 ambient concentration. From Jan. 01, 2007, the Taiwan EPA has levied air pollution fee for VOCs so that all the VOCs emitting factories can reduce their VOCs emissions.

This study proposed a policy that combines air pollution fee and emissions trading. Hsin-chu city was selected to be the case study area. The installation cost and the operation & maintaining cost functions of prior investments on the best available technology for the VOCs air pollution control device in Taiwan semiconductor and opto-electronic factories were established. And the feasibility of the combined policy of emissions trading and air pollution fee was evaluated and compared with that of the present air pollution fee policy. The results showed that the reduction potential of combined system is more than the current employing air pollution fee policy and it could reduce the investment costs of the factories. Under this combined system, the government expense of air pollution will be decreased. But it has high incentive for the polluters to reduce VOCs emissions, therefore it is concluded that the combined policy of emissions trading and the air pollution policy has a potential to be applied in the future.

Keywords: Air quality, Emissions trading, VOCs, air pollution fee, economic incentives.