

ABSTRACT

This research is a study of public policies on hazardous waste management: a case study of small and medium automotive battery manufacturers in Bangkok metropolitan and vicinity area. The main purpose of this research is to find the gap of environmental policy instruments exercised through laws and related projects for manufacturers. Undoubtedly, while large manufacturers can comply with these regulations because of their sufficiency in financial investment, technology and capable personnel, small and medium manufacturers are struggling to follow these regulations because of a lack of potential in those factors mentioned before. In addition, there is not enough support from public sector of hazardous waste management properly. As a result, some manufacturers may be to execute inappropriate, or even illegal, hazardous waste management that can cause pollution threatened human health and damaged environment. The reasons this study focuses on small and medium automotive battery manufacturers in Bangkok metropolitan and vicinity area are: 1) there are number of researches' findings show that automotive battery manufacturers cause hazardous waste. 2) Bangkok metropolitan and vicinity areas have the most automotive battery manufacturers in Thailand.

The study starts out by researching environmental policy and regulations to identify all policy instruments, then conducting surveys and studying about manufacturer's hazardous waste management to identify methods they use and problem they cope with, and to propose proper environmental policy instrument on hazardous wastes management for small and medium automotive battery manufacturers. So, concepts used as framework for this research are 1) public policy and environmental policy 2) environmental policy instruments; and 3) principles of hazardous waste management, known as "Cradle-to-Grave". The first concept is a combination of basic ideas of policies that lead to the understanding of policy instruments that are the output from policy system. Secondly, environmental policy instruments consist of command and control approach, economic incentive approach, and voluntary approach. These

approaches are used to categorize results of the survey data and analyze the action along hazardous waste management principles. Lastly, "Cradle-to Grave" is a cycle of activities to manage hazardous waste from source, sorting, storage, collecting, transport, treatment, recycle and disposal. These steps are used in this study to clarify which instrument is employed to capture each activities and how well they perform.

Since there are very few automotive manufacturers in Thailand and data are attribute, the study employs a qualitative methodology using three techniques to gather data; 1) researching on laws and programs relating to hazardous waste management in automotive battery manufacturers 2) distributing questionnaires asking for basic information about the manufacturers 3) conducting in-depth interview, for public sector personnel who have been dealing with hazardous waste management in battery manufacturers. For manufacturers sector such as owners, administrators or officers whose work relating to hazardous waste management. The samples of this study are consisting of 10 manufacturers and 8 public agencies, total 31 interviewees.

The outcome of the research shows that most environmental policy instruments are in form of legislation. Many legislative policies were enacted and sufficiently covered all aspects of waste management in manufacturers. In practice, however, there is a problem about authority conflict between related agencies, officials and manufacturers. For incentive approach on environmental policy, these small and medium manufacturers do not have sufficient knowledge how the government's subsidies help ease the cost of implementation, on the other hand, they view pollution management fee and emission charge as negative force instead of reinforcement which has mainly impact manufacturers located in industrial zone. Thus, this incentive approach fails to hit the target. In term of voluntary approach, the manufacturers are informed about the environmental management system and educational support but it could hardly persuade these manufacturers to manage their hazardous wastes properly. As shown, it could be said that the public sector has developed environmental policy instruments that covered all aspects of waste management. Nevertheless, there is a lack of linkage and specificity to induce the manufacturers to comply the restrictions.

Moreover, factors such as manufacturers' location, financial capability, environmental awareness, disposal expenses and public sector monitoring system are considered significant obstacles because they prevent compliance to policies.

The finding of this study confirms that public agencies must integrate all the existing approaches of command and control, incentive, and voluntary. However, they must emphasize on incentive and support by establishment of waste management regulations particularly for automotive battery manufacturers in order to motivate them to locate their manufacturers at industrial zone. Moreover, this study supports the issuance of "Green Label Rules" for automotive battery business to encourage these manufacturers to join the "Eco-Label" program. Finally, to fulfill these guidelines, intensive collaboration between the manufacturers and public sector is strongly recommended.