Point and non-point emission trading markets

John Tisdell
Associate Professor in Resource and Environmental Economics
Griffith University Brisbane Australia

This paper explores the issue of non-point pollution credit production in the context of water quality in rivers and streams. Such trading depends on emission reduction cost differential between point source polluters, such as publicly owned treatment plants and industrial sources, and non-point polluters, such as farms. In previous studies of emission trading markets, polluter production decisions are either treated outside the market analysis (see Cason and Gangadharan, 2006) or made on the basis of emission credits as an input to production (see Godby et al. 1998). In water quality emission markets there is a clear link between non-point (farm) production activities and non-point emission credits, although this is often difficult to quantify accurately in advance. The problems associated with linking cause and effect gives the non-point emission credit its unique non-point characteristic. As water quality is a significant issue in many catchments throughout the world, further experimentation seems warranted. This paper presents the results of a series of experiments in which players face imperfect knowledge of abatement outcomes associated with non-point (defuse) sources of emission credits.

Key words: emission trading, diffuse source pollution, uncertainty, experiments.