

Poster for erscp 2008 related to Topic I

Certificate Trading Schemes for New Land Use

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In many European countries, actual land use for residential and commercial developments or for transport infrastructure is much higher than what would be compatible with sustainable development. Therefore, current scientific and political discussions center on using economic policy instruments to limit urban sprawl and additional land use at the lowest possible costs. The challenge is to provide housing and business facilities without – or with very little – new land development, e. g. by converting areas within cities that are no longer in use. Besides a tax on new land use, economic instruments also include a trading system for land use certificates. In contrast to command-and-control type regulations, such a cap-and-trade system gives the municipalities - and possibly other administrative agencies carrying out development projects at supra-municipal levels – high flexibility when deciding on new land use. Ideally, land will be developed for new residential, commercial, and transport uses where it promises the highest net benefits, given the environmental and land use planning objectives of the decision makers. In addition to the flexibility and in contrast to a tax-based system, a total cap ensures that the overall target for land use is met. This is a crucial aspect, since land is a resource which generally cannot be augmented.

Previous studies (e. g. Bizer 1998; Walz et al. 2006b; Walz et al. 2006a) focused on the crucial design parameters for a system of tradable land use certificates. Since these were primarily theoretical analyses, they could not determine which incentives such systems would actually generate in practice. In particular, it was unclear to what extent such systems would help to achieve the expected efficiency gains. To address these questions, the FONA project “Spiel-Raum” (www.spielraum.isi.fhg.de) simulates the trading of land use certificates between municipalities using various designs. In particular, strategies chosen by the participating municipalities are analyzed. As a new methodological approach, an internet based interactive trade is simulated with participants from 14 German municipalities. The presentation summarizes results from the two simulation rounds. We show the practical experiences and strategic decisions, which drove the players and discuss the market result achieved in relation to the theoretically optimal result. Strong motives for new land development are the provision of attractive housing for young families and the provision of industrial parks. The results of these analyses are expected to provide guidance for the design of a trading system for land use certificates. In this way, the research project may contribute to the further, concrete development of this policy instrument and give insights on how to meet long-term targets for sustainable land use.

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