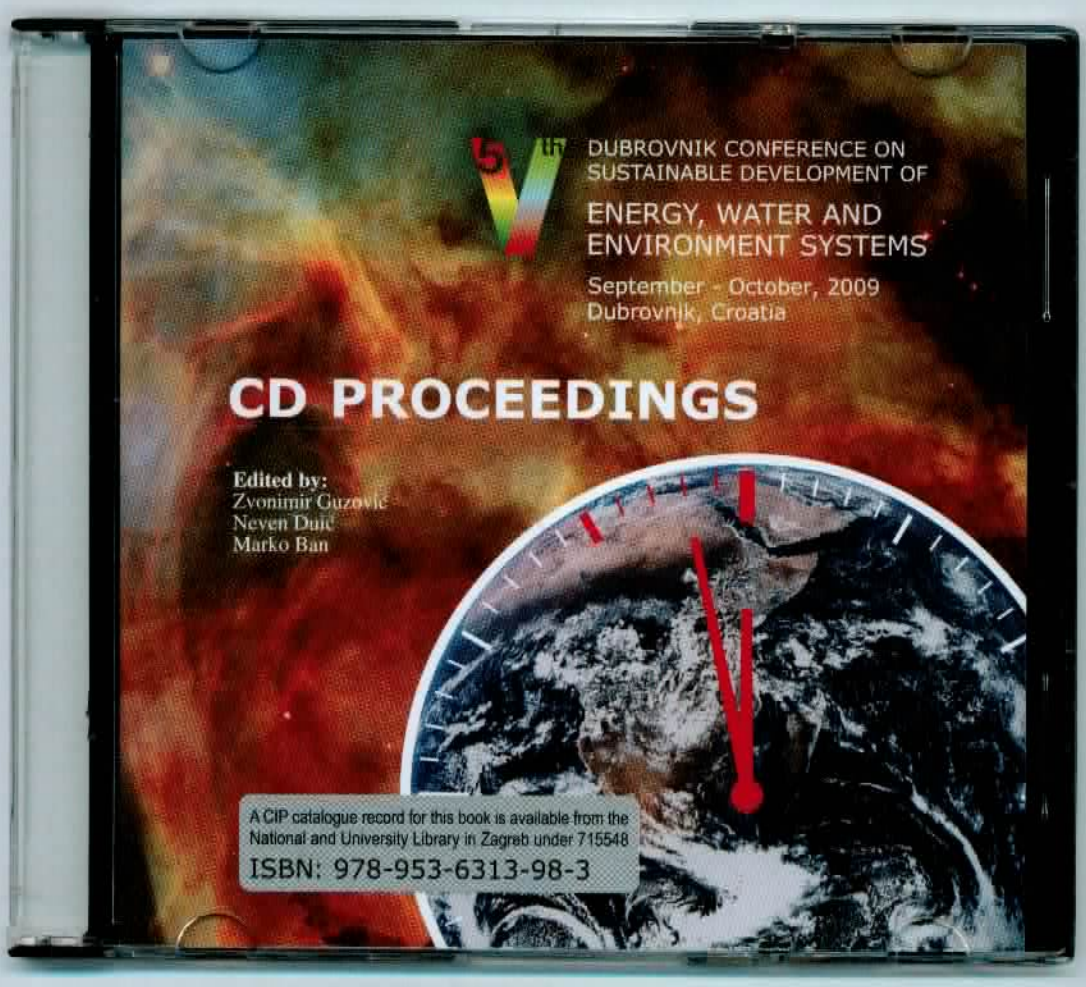
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Efficiency and Effectiveness of Promotion Systems for Electricity Generation from Renewable Energy Sources - Lessons from EU Countries

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ABSTRACT

1. Introduction

Currently, a wide range of strategies is implemented in different countries to increase the share of electricity from renewable energy sources: One of the most controversially discussions is whether trading-based (e.g. the recently announced Guarantee-of-Origin (GoO) trade) or technology-specific instruments (like feed-in tariffs (FIT)) lead to preferable solutions for society. An important issue in this context is that both systems are actually market-based and both systems are introduced by policy makers and, hence, create an artificial market. Finally, in both systems the final electricity customers (or the tax payers) will have to cover the support costs.

2. Method of approach

The core objective of this paper is to discuss the perspectives of quota-based GoO trade for an efficient and effective increase of RES-E in comparison to FIT. The analysis is based on a formal framework how instruments works using the computer model GREEN-X. Major focus is put on the analysis of the additional extra costs for the electricity consumers/tax payers . Finally the problems that might arise from trading systems e.g of 'windfall profits' (e.g. if existing capacities or already cost-effective technologies are included in a trading system) are investigated.

3. Results

The major results of this analysis are: (i) The success stories of growth in RES-E in EU member states in recent years has been triggered by FIT implemented in a technology-specific manner at modest costs for European citizens. The main reason is the long term price security of the system combined with technology diversification of support. Compared to short term trading in renewable certificate markets the intrinsic stability of feed-in systems appears to be a key element for success. Hence, currently a well-designed (dynamic) FIT system provides a certain deployment of RES-E in the shortest time and at lowest costs for society.

At present, quota-based trading systems show a low effectiveness although comparably high profit margins are possible. Firstly, a major problem are the producer profits possible especially for the cheapest options in the market. This leads to

correspondingly high additional costs for customers. Secondly, market mechanisms seem to fail in TGC-systems, but, why should competition work in a TGC market if it does not function in the conventional European electricity market? The large incumbent utilities favour trading systems since this scheme gives them the chance to hedge risks and therefore prefer higher profitability.

4. Conclusions

The most important conclusions of this analysis are: (i) regardless which strategy is chosen it is of superior relevance that there is a clear focus on the exclusive promotion of new capacity; (ii) A well-designed (dynamic) Feed-in tariff system provides a certain deployment of electricity generated from Renewable Energy Sources (RES-E) fastest and at lowest costs for society; (iii) Promotion strategies with low policy risk lead to lower profit requirements b y investors and, hence, cause lower costs for society.