Universität Basel

Research Project

Multiple quota markets for renewable energy: Balancing efficiency and the risk of a technological lock-in

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Project title Multiple quota markets for renewable energy: Balancing efficiency and the risk of a technological lock-in
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To increase the share of renewables in energy supply, quota markets and feed-in tariffs are the most discussed (and used) instruments of environmental policy. They differ regarding their impact on technological progress. Whereas feed-in tariffs neutralize any competition between different technologies, only the currently best technologies survive in a quota market. From the perspective of technological progress, both instruments are suboptimal; quota markets easily result in a lock-in (only the currently best technology is used and developed, regardless of the potential of other technologies) and feed-in tariffs lead to a continued development of inferior technologies. In this project, we analyze a system of multiple quota markets (e.g., a markets for new and a market for more mature technologies) with regard to its potential of inducing an ex-ante efficent development of different technologies. To this end, we develop a new model of technological progress under uncertainty and analyze this system of multiple quota markets in the context of this model.

Keywords Renewable energy, tradable permits, technological progress, uncertainty
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