

## Research Project

### Evolving market structure in policy-induced technology transitions: A theoretical investigation of market and investment dynamics

#### Third-party funded project

**Project title** Evolving market structure in policy-induced technology transitions: A theoretical investigation of market and investment dynamics

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Policy-induced transitions to novel technologies have become frequent in many economies; the move towards a low-carbon economy or the energy transitions in Switzerland and Germany are prominent examples. An important feature of such transitions is that the market structure is likely to change during the transition. New entrants, which use new technologies, could replace incumbents, as is the case in some energy transitions. In contrast, incumbents could invest themselves in new technologies and thereby keep newcomers out of the market, as has been the in the CFC-phase out. Current environmental economic theory is not well equipped to describe such transitions, as it either takes the market structure or the technology as given and fixed. This project aims to develop a novel approach for investigating technology transitions. In several steps, it will develop and analyze a theoretical economic model that describes how policy-induced firm investments shape a market structure, which in turn alters investment incentives, and how this feedback-loop evolves over time. The model will be used to analyze governmental policy, for example the questions: Should a government support new entrants or keep old firms in the market via subsidies? What should be the duration of such interventions? Finally, the results of the project will be applied to the case of the Swiss energy transition, building on research and data from the SCCER CREST.

**Keywords** Imperfectly competitive markets, R&D externalities, Technological change, Industrial policy, Environmental policy, Energy policy

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