



**Sustainable strategies of companies in energy intensive sectors to cope with climate change**

(Main supervisor: Rupert J. Baumgartner)

Climate change is an increasingly important strategic issue for companies due to its complexity and potential impact. Companies have a dual role as they will not only be passive recipients of the effects of climate change but they also actively influence climate change through their strategies and activities. Especially energy intensive companies (share of energy costs relative to value creation is higher than 10%) are under an increasing pressure from stakeholder and climate policies within the EU (-20% goal by 2020, longterm goals -80%) to de-carbonate their business models. The research objectives of this thesis are first to analyze the perception of climate change challenges and second to evaluate strategic responses of energy intensive companies to the challenge of climate change. These responses include adaptation, mitigation and resilience strategies.

In order to develop a comprehensive understanding of the perception and strategic responses (mitigation, adaptation, resilience) of energy intensive companies to the challenges and effects of climate change, the project will attempt to identify and analyze the factors that are decisive in describing their behavior from a systemic viewpoint. In its analysis, the project will also take the normative foundations of corporate climate strategies into account. Theoretical basics for this research are management science, decision theory, systems theory and innovation theory with a focus on systems transition management.

[The project contributes to answering the DK research question 3](#)

## **Individual mobility as climate challenge - Climate change risks and corporate vulnerability in the automotive sector**

(Main supervisor: Rupert J. Baumgartner)

The emissions associated with individuals' use of passenger cars are a significant part of Austria's total GHG emissions. On the assumption that there has to be a significant reduction in Austria's total GHG emissions, this will lead to an increased pressure to reduce the emissions of car traffic. These reductions will need both, a different pattern of the use of cars and of the use of different technologies and services provided by the business sector. Therefore, a better understanding of climate change uncertainties, risks, and thresholds critical to companies in the automotive sector is of increasing relevance both from an environmental and an economic viewpoint as the classical business model of this sector has to change fundamentally.

Within this thesis it shall be analyzed if and how climate change risks are identified and dealt with in the automotive sector, which factors influence the development (or the avoidance) of climate change strategies for this industry, and if and how the adoption of strategies designed to increase resilience can improve the management of climate change risks and vulnerability. In its analysis, the project will focus in particular on societal and regulatory developments induced by climate policies within this sector. In addition, the project will also analyze economic effects of climate policies and their impact on corporate strategies.

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