Emission Trading

Research Handbook on Emissions Trading examines the origins, implementation challenges and international dimensions of emissions trading. It pursues an interdisciplinary approach drawing on law, economics and at times, political science, to present relevant research strands regarding emissions trading. Intermixing theoretical insights with experiences from existing trading systems, this Handbook offers insights that can be applied around the world. It identifies key bodies of research for both upcoming and seasoned people in the field and highlights future research opportunities.

The Nordic Council of Ministers commissioned an update study on the developments of the European Emissions Trading Scheme (EUETS). The focus of the study is the interaction between the EUETS and the Nordic electricity market in general and the electricity prices to the industry in particular. The study was presented at a seminar organised by the NCM in mid-March to discuss the developments with industry and market actors.

'Emission markets are crucial both to provide the right incentives to reduce GHG emissions and to fund investments necessary for a transition to a low carbon world. Emission markets however cannot achieve these objectives if inappropriately designed. This book is a novel and fresh attempt to look at the real functioning of the EU Emission Trading Scheme and to assess its effectiveness and inconsistencies, its positive and negative impacts on industrial and financial markets. With the overall objective to improve its design and performance.' Carlo Carraro, University of Venice, Italy

'...this important book has the great achievement of addressing a complicated and socially highly debated issue of how society could be given optimal incentives for emission reductions from a legal and economic perspective. Moreover, it not only addresses the various issues from a theoretical perspective, but provides important empirical evidence on the working of emissions trading as well. The book will undoubtedly have important lessons not only at the theoretical level, but also for policy makers interested in improving the effectiveness of emission trading schemes.' From the foreword by Michael Faure

This unique and up-to-date book analyses the functioning of the European Emissions Trading Scheme (ETS) and assesses the extent to which relevant legislation has affected its capacity to promote cost-effective reduction of European carbon emissions. The author investigates whether inefficiency has been caused by both the ETS cap setting procedure and by the ETS relevant allocation rule,
as defined by Directive 2003/87/EC. He then considers whether the new Directive 2009/29/EC, which reforms the ETS institutional design, is likely to improve the scheme's effectiveness by reducing the risk of carbon leakage which could potentially be a consequence of implementing a unilateral policy across the asymmetric political landscape of Europe. This well-documented book will appeal to researchers and postgraduate students in environmental law and environmental economics, as well as policymakers within environment, industry and economics, and electric and industrial operators and stakeholders. Environmental NGOs, energy and environmental consulting groups, members of the European Commission, and energy and environmental think-tanks will also find much to interest them in this insightful book.

This timely book addresses the need for further measures to reduce greenhouse gas emissions in the European Union, arguing that the EU Emissions Trading Scheme does not offer sufficient incentives for the carbon-intensive materials sector. It highlights the challenge that emissions from industries such as iron and steel, cement and aluminium, amongst others, pose to the EU’s commitment to significantly cut emissions by 2030.

Study of Atmospheric Emission Trading Programs in the United States
The EU Emission Trading Scheme After One Year
Emission Taxes and Emission Trading
Emissions Trading for Climate Policy
Comparative Analysis and Linking Perspectives
Emissions Trading Design
A CO2 Emission Trading Scheme for German Road Transport

This Open Access book provides detailed information about the incoming Mexican Emissions Trading System, including an analysis on why the system was implemented, how the system was designed, how it operates, how it could work, and how it could be strengthened by 2023 when it will be formally launched. This document is aimed at those who want to understand how an ETS can operate in an emerging economy. Although it has been written for experts and non-experts, this book does not provide the underlying theory of market-based instruments and emissions trading systems in general. The book can be read from start to finish, but can also be used as a reference for specific components of regional ETSs. The book draws upon a meticulous study of background documents and fieldwork from different authors to tell the story of how a Mexican ETS, the first of its kind in Latin America, can be set in the country. The emissions trading system cover many greenhouse gas emissions and has been hailed as one of the cornerstones of the Mexican climate policy. The book also examines and explains how the ETS is designed and implemented.

Starting from January 1, 2005 the European Union will implement a scheme for trading with greenhouse gas (GHG) emission allowances.
During the first trading period, 2005-2007, the scheme covers only CO2, and there is no international commitment to reduce the emission of GHG. During the second period, 2008-2012, the European Union has committed to reducing their emissions of GHG by 8% compared to 1990 levels. Emissions trading will create a cost of CO2 emissions and increase the marginal cost of producing electricity in fossil-fueled plants. This will result in an increase in the electricity price. For the period of 2005-2007, the likely range of allowance prices in the EU is estimated to be 1-5/tonne CO2 and for 2008-2012, 8-13/tonne CO2. Based on these estimates the effect on the price of electricity is analyzed. In the short run, the price increases in the Nordic countries, except Jutland, is less than the increase in marginal cost for coal plants. In the somewhat longer run (2012) the price increase is approximately the same as the increase in the marginal cost of modern gas-fired plants.

This report analyses the interaction of the pilot Emissions Trading System (ETS) and the electricity market in Mexico. It does so along two main questions: a) How do ETS design features affect the environmental effectiveness of the system and the quality of the carbon price signal? b) How do electricity market design features affect the carbon price induced abatement in the power sector? Due to the absence of a carbon price during the pilot phase of the Mexican ETS, the assessment is based on expected effects based on publicly available data and expert interviews. The Mexican emissions trading scheme (ETS) started operation in 2020. The first three years are designated as a pilot phase with the expressed aim to gather experience in the implementation of an ETS in Mexico. At the time of writing, the first compliance cycle had not yet been finalized and - due to the specific rules for the pilot phase - there was not yet an established CO2 price. The Mexican electricity market is undergoing a period of great uncertainty, both in terms of the regulation of the electricity market itself but also in term of the ETS. It remains to be seen to which extent the energy reform of 2014 will be rolled back and which level of ambition the future climate policy will have. Together with the special rules during the pilot phase of the Mexican ETS it is unlikely that the trading system will have a noticeable impact in the short term on demand, supply, or investments. This case study is part of the project “Influence of market structures and market regulation on the carbon market” that aims to identify the impact of market structures and regulations on carbon markets and to investigate the interdependencies between carbon and energy markets in Europe, California, China, South Korea, and Mexico.

This book draws upon a meticulous study of background documents and a string of fresh interviews to tell the fascinating story of how the EU’s climate flagship was significantly improved. The EU’s emissions trading system (ETS) covers almost half of its greenhouse gas emissions and has been hailed as the cornerstone and flagship of EU climate policy. But in spring 2013 the ETS was in severe crisis, with a huge surplus of allowances and a sagging carbon price. Even a formally simple measure to change the timing of auctioning was initially rejected by the European Parliament. Two years later a much more important ‘market thermostat’ was adopted (i.e. the Market Stability Reserve) and proposals for a complete ETS overhaul were put on the table. This book examines and explains how it was possible to turn the flagship around so quickly. Crucial changes at EU and national levels are identified, chief among them in Germany and the European Parliament.

The Subsidisation of Heavy Polluters under Emissions Trading Schemes
Outlook on the first ETS in Latin-America and Exploration of the Way Forward
Acid Rain and Environmental Degradation
The EU Emissions Trading Scheme
International Greenhouse Gas Emission Trading
The European Emission Trading System and Its Followers
The EU-Emission Trading System. Goals, Success and Challenges
Emissions TradingPrinciples and PracticeRoutledge

The emission trading scheme is the most recent instrument of the EU environmental policy. Its underlying mechanisms and economic consequences are yet less straightforward than policymakers initially had expected: As this study shows, the regulation probably yields unintended distributional effects and imposes additional risk on the regulated companies. Consequently, meaningful accounting for emission rights is not only a necessity for regulators and customers, who need transparency, but also for investors on capital markets, who bear the additional regulatory risk. This study empirically assesses the usefulness of various accounting alternatives and provides evidence that cost and fair value approaches dominate the widely used mixed models.

Authoritative, comprehensive, accessible—the definitive guide to a new approach in environmental policy
Emissions Trading: Environmental Policy's New Approach presents the work of an outstanding group of contributors on the successes and limitations of this new and exciting incentive-based tool for reducing environmental pollutants. By including the comments of emitters, regulators, public interest group representatives, and academics, the book reveals the criticisms, disagreements, and growing resolution of numerous environmental questions, including: * Can markets be used to correct market environmental failure? * Will decentralized decisions by emitters produce an improvement in air quality? * Can this approach realize significant control cost savings? * Can emissions trading be monitored and enforced effectively at a reduced cost? * Will affected groups support this dramatic innovation? Supported with sound analytical thinking and careful consideration of the evidence, Emissions Trading presents an open and candid discussion of the issues and choices that lie ahead. As emissions trading is extended to air pollutants such as nitrogen oxides and carbon dioxide, the data and information contained in this book will become even more important and compelling for anyone interested in matters destined to have a profound impact on the economy, the environment, and public health.

Acid Rain and Environmental Degradation is a succinct yet comprehensive survey of emission trading - a significant research and policy field of increasing importance for both Europe and the USA. Against the background of environmental policy instruments in general, Dr Klaassen presents a state-of-the-art survey of both the theory and actual applications of tradable permits. This survey also analyses international theory and experience. Later chapters examine the European acid rain issue and discuss how it can be addressed by means of tradable permits with particular relevance to sulphur emissions. A cid
Rain and Environmental Degradation responds to current European policy discussions to apply emission trading on a continental scale. Because of its unique blend of theory and practice, this volume not only sets the tone for future discussions in Europe on transboundary pollution control, but also offers something for the academic economist, the environmentalist and the policymaker.

International Emission Trading by Networking Carbon Markets on Distributed Ledger Technology

Architecture: Regulatory and Institutional Frameworks

Effective and Flexible Emissions Trading Markets

With Special Reference to the Kyoto Protocol

An Emerging Market for the Environment

An Empirical Study in the Oil and Gas Industry

The EU Emission Trading Scheme

A Global Analysis

Seminar paper from the year 2016 in the subject Politics - International Politics - Topic: European Union, grade: 2.0, ISEC-Institut Supérieur de l’Économie (dern. eufom University), language: English, abstract: This term paper discusses how to improve the European Union Emission Trading Scheme to have the lowest possible influence on companies with the highest possible reduction of greenhouse gases. Even though in theory this scheme may appear flawless there are a few conflicts and negative consequences which have a big influence on some participating countries. To get an overview, the problem of the emissions has to be explained first. After that, it is essential to explain the theory of the European Union Emission Trading Scheme with a summary of the main expected theoretical effects. There must be an empirical evaluation about the real effects in comparison to the theoretical expected ones. This part will be followed by a discussion on how the government needs to change the scheme to improve the consequences. At last, there will be a conclusion which will sum up the outcome of the discussion and give a perspective on the future.

Being and staying healthy is one of the greatest wishes of humanity because it is assuring a longer life. But not only a highly developed health system protects people from illnesses, also living in a clean and safe environment extends the span of life. This is why it is always interesting to discuss new solutions of the government which shall protect the environment, improve our climate and increase our sustainability. In year 1997 the Kyoto protocol was added to the United Nations Framework Convention on Climate Change, short UNFCCC, to reduce those emissions gradually. In addition to this contract the European Union created in 2005 the European Union Emission Trading Scheme, short EU ETS. It allows companies to buy and trade a certain amount of emission permits.

Since its inclusion in the Kyoto Protocol, as one of three market-based mechanisms to reduce greenhouse gas emissions, an international emissions trading system has attracted widespread interest. This guide provides information for the non-specialist on the concept of emissions trading, including a simple theoretical model of an emissions trading system, with an emphasis on its economic advantages in comparison to more conventional forms of regulation. It also explores different system designs and their environmental aims, examples of existing systems with their performance to date, and how future systems may develop.

Seminar paper from the year 2019 in the subject Politics - Environmental Policy, grade: 1.7, University of Applied Sciences Stuttgart, language: English, abstract: The work discusses the European Union Emission Trading System and analyses its chronological progress. The European Union has a fundamental role in setting bindingly ambitions for member states to fight the global warming with global and international, not national measures. Between 1990 and 2012 the EU achieved a decrease of greenhouse gas emission by 19 percent meanwhile the economy grew about 45 percent at the same
The European Union campaigns for the climate protection. The reason why is the fact that the percentage of greenhouse gases, mainly carbon dioxide, in the Earth's atmosphere is higher than it was at least 800 thousand years ago. 80 percent of the greenhouse gases produced in the European Union (EU) derive from the combustion of energy carriers like fossil fuels, which leads to the problem that the more greenhouse gases we have in the atmosphere, the less sun energy can escape it and the earth starts to heat up. As a result of the increasingly noticeable consequences of the climate change the policy must diminish the anthropogenic greenhouse gas emission. For that, the most approved instrument is the Emission Trading System (ETS), which all 28 EU member states plus Iceland, Liechtenstein and Norway have already inserted.

Empirical and theoretical perspectives on the first two phases of the European Emissions Trading Scheme, the largest cap-and-trade market established so far.

Assessing the Impacts Using a Meso Economic Model with Multi-agent Attributes

Strategic Responses to the EU Emission Trading Scheme

Economic and Legal Considerations

European Emissions Trading in Practice

Rescuing EU Emissions Trading

An analysis of emission trading with reference to companies dealing with emissions: the case of RWE and E.ON

Evaluation and Prospects

This special issue of the Climate Policy journal outlines the fundamentals of the new European Emissions Trading Scheme (EU ETS), assesses the strategies for and impact of implementation and highlights the scheme's potential, including positive aspects and remaining hurdles. The EU Emission Trading Scheme (EU ETS) is the first international trading scheme for CO2 in the world. Its aim is to reduce the cost of compliance to existing targets under the Kyoto Protocol. From 1st January 2005, companies in high-energy sectors covered by the scheme must limit their CO2 emissions to allocated levels, arranged in two periods: from 2005-2007 and 2008-2012 (to match the first Kyoto commitment period). In practice, the scheme is likely to cover over 12,000 installations across the European Union, corresponding to approximately 46% of the total EU CO2 emissions. The EU ETS represents a significant development in working at an international level to combat dangerous climate change. The EU Emissions Trading Scheme presents a comprehensive and insightful analysis of the EU ETS, written by international experts in the field. The publication includes the latest research on emissions credits, the interaction of the trading scheme with national energy policies and the debate on future expansion.

The 1997 Kyoto Conference introduced emissions trading as a policy instrument for climate protection. Bringing together scholars in the fields of economics, political science and law, this book, which was originally published in 2005, provides a description, analysis and evaluation of different aspects of emissions trading as an instrument to control greenhouse gases. The authors analyse theoretical aspects of regulatory instruments for climate policy, provide an overview of US experience with market-based instruments, draw lessons from trading schemes for the control of greenhouse gases, and discuss options
for emissions trading in climate policy. They also highlight the background of climate policy and instrument choice in the US and Europe and the foundation of systems in Europe, particularly the EU's directive for a CO2 emissions trading system.

Emissions Trading and WTO Law examines the global trade issues that arise as a result of the introduction of emissions trading frameworks. The book focuses specifically on the rules of the WTO, as a tool to demonstrate where the boundaries exist for acceptable interference with international trade. In doing this, Felicity Deane addresses the question of the potential global impact of emissions trading frameworks.

First published in 1985, Emissions Trading was a comprehensive review of the first large-scale attempt to use economic incentives in environmental policy in the U.S. and of the empirical and theoretical research on which this approach is based. Since its publication it has consistently been one of the most widely cited works in the tradable permits literature. The second edition of this classic study of pollution reform considers how the use of transferable permits to control pollution has evolved, looks at how these programs have been implemented in the U.S. and internationally, and offers an objective evaluation of the resulting successes, failures, and lessons learned over the last twenty-five years.

EU Emission Trading – Economical Effects of Emission Auctions

Towards an Emissions Trading System in Mexico: Rationale, Design and Connections with the Global Climate Agenda

Norway Emission Trading Laws, Regulations and Programs Handbook Volume 1 Strategic Information and Basic Regulations

Final Report

Emission Trading or Global Carbon Tax? An Examination of Drawbacks and Advantages in both models

A Critical Overview

EU Emission Trading Scheme and the Effect on the Price of Electricity

Attempting to counter the possible impacts of global warming, the European Union has promised to reduce its carbon dioxide (CO2) emissions by 8% until 2010, compared to 1990. Although it is the only sector which increases its CO2 emissions, the transport sector, which contributes to around 28% of European CO2 emissions, has been exempted from the European Emission Trading Scheme (ETS). This dissertation develops a partial meso-economic simulation model with multi-agent attributes to assess the impacts of an upstream CO2 emission trading scheme in German road transport. The effects on certificate prices and fuel demand are calculated with respect to the individual reaction functions of households and freight forwarders. It becomes apparent that, from the current perspective, the willingness-to-pay of households for prestigious (but fuel-inefficient) cars is outbalanced by technical mitigation costs in other sectors. Thus, in the open trading scheme (extended ETS), no major changes in transport demand are assumed. The main effect will be steady CO2 emissions in
Emission trading (ET) challenges business managers in an entirely new manner, changing the criteria by which environmental policy steers management decisions from hierarchical to monetary. The 24 contributions to this volume discuss ET theoretically and empirically in these broad topic areas: 1) Institutional design, decision making and innovation; 2) Investment and management strategies; 3) ET and business administration and 4) Effects of existing and emerging ET schemes.

Emission trading is becoming an increasingly popular policy instrument with growing diversity in design. This book examines emission trading design, emission trading implementation problems and how to address them. In an easily accessible way.

Emitting half of the greenhouse gases in industrialised countries, the oil and gas sector plays a central role in global GHG emissions. Environmental regulations such as the EU ETS emerged to fight climate change by reducing GHG emissions. Although those regulations increasingly affect oil and gas companies, specific implications of the EU ETS on business strategies are widely unknown. Therefore, this dissertation explores strategic responses to the EU ETS and analyses the impact of the regulation on the oil and gas sector. A strategic response framework, derived from the literature review, provides the basis for the analysis and is consequently adapted to the research findings. Empirical case studies of BP and Shell, combine secondary data and expert interviews to identify and further outline specific responses to the EU ETS. The research findings indicate that the EU ETS significantly impacts business strategies of oil and gas firms. The resulting strategic responses are mainly influenced by regulatory pressure, economic factors and competitive implications.

Responses in various corporate, managerial and operational areas could be identified. From a corporate perspective, oil and gas companies support the EU ETS, as a trading scheme for carbon is preferred to other options, such as carbon taxes. Managerial responses comprise the introduction of environmental risk management systems, incorporating a carbon price into investment decisions, and the establishment of carbon trading teams, mitigating the costs of the EU ETS. Operationally, oil and gas firms responded directly by engaging in carbon trading and investing in Carbon Capture and Storage technologies. While, process improvements and lower emission generating products such as natural gas and bi...
A significant volume of literature already exists concerning the inclusion of aviation in the EU-ETS. Most of the research laid its focus on specific industry levels such as the individual airline, the aviation industry in general or macroeconomic aspects. In this context, these studies tried to anticipate market reactions triggered by the EU-ETS by analyzing specific issues such as the financial impact on airlines, changes in competitive behavior or implications for the overall industry development. As a consequence, the existing studies took only a limited market view and made assumptions about expected developments in specific fields of the aviation industry. However, at the time of writing this thesis, conclusions about the scope of impact could hardly be drawn from existing impact assessments because of the wide range of issues that exceeded the scope of most impact studies. Hence, a broader research approach is needed which takes different analytical perspectives to describe the scope of impact of the EU-ETS and depict potential effects for the aviation industry.

Seminar paper from the year 2012 in the subject Business economics - Business Management, Corporate Governance, grade: 1,7, University of Applied Sciences Paderborn, language: English, abstract: The goal and purpose of this paper is to describe the necessity and functionality of emission trading. Furthermore, it illustrates the basic procedure of emission trading and explains its general parts, in order to be able to evaluate the efficiency of emission trading and emphasize its critical aspects. Firstly, this paper explains the basic principles of emission trading, initially special terms and definitions. Then chapter two continues to clarify why emission trading exists and why its importance constantly rises. After that, chapter three deals with important boundary conditions. Chapter four contains the functionality of emission trading and its corresponding procedures. The term paper ends up with a brief conclusion, including a little forecast for the near future.

International emission trading will be one of the most important tools in the effort to reduce greenhouse gas emissions in the atmosphere. While the private sector has embraced the concept and is well equipped to use it, implementation at the international level remains incomplete. This book provides a broad assessment of the issue from the 'perfect' system envisaged in economic models to a more realistic view of how trading can actually work. The review is based on market experiments and modelling undertaken by the International Energy Agency and other institutions. It takes an in-depth look at implications for the power generation sector, and considers how developing countries could be included in a future trading regime. The aim of the book is to clarify what can be expected from international emission trading in the energy sector, and in other activities.

Seminar paper from the year 2005 in the subject Business economics - Business Management, Corporate Governance, grade: 1,0, University of Hull, language: English, abstract: 1 Introduction During the last century the Earth's average surface temperature has risen by 0.6 degrees Celsius. It is expected to warm by 1.4 to 5.8 degrees Celsius by the end of this century. The current warming trend is expected to cause extinctions. Many plant and animal species, already damaged by pollution and loss of habitat, are not expected to survive till the next century. Human beings are likely to face mounting impacts such as raising sea level, decrease of drinking water springs and, deserts may expand into existing farmlands. The main reason for growing thermometer is the industrialisation with burning of ever-greater quantities of oil, gasoline, and coal, the destroying of forests and some farming methods which especially causes carbon dioxide, methane, and nitrous oxide. These activities cause an increasing amount of greenhouse gases' in the atmosphere. The effect is that the global temperature is increasing artificially. Global warming involving the entire world which most countries joined an international treaty, under the umbrella of the United Nations, to begin to consider what can be done to reduce global warming. Therefore, in 1997 governments agreed to an addition to the consisting treaty, namely the 'Kyoto Protocol' (UNFCCC, 2005). [...]
Update on the Latest Developments in the EU Emission Trading Scheme
Influence of Market Structures and Market Regulation on the Carbon Market
Emission Trading. Purpose, functionality and boundaries
The inclusion of aviation in the European Emission Trading Scheme: Analyzing the scope of impact on the aviation industry
Experiences and Outlooks
International Emission Trading

Emission Trading. Purpose, functionality and boundaries

The inclusion of aviation in the European Emission Trading Scheme: Analyzing the scope of impact on the aviation industry

Experiences and Outlooks

International Emission Trading
Væksten i og betydningen af transportsektorens CO2 emissioner, kombineret med de relativt høje reduktionsomkostninger i transportsektoren, peger på, at der kan opnås fordele ved at inkludere sektoren i EU's kvotehandelssystem.

Principles and Practice
Environmental Policy's New Approach
Climate Change. The Progress of the European Union Emission Trading System
From Concept to Reality
An Analysis of the European Emission Trading Scheme
Paying the Carbon Price
Research Handbook on Emissions Trading