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978-0-521-18262-1 - Allocation in the European Emissions Trading Scheme: Rights, Rents and Fairness

Edited by A. Denny Ellerman, Barbara K. Buchner and Carlo Carraro

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Allocation in the European Emissions Trading Scheme

A critical issue in dealing with climate change is deciding who has a right to emit carbon dioxide, particularly when those emissions are limited. *Allocation in the European Emissions Trading Scheme* provides the first in-depth description and analysis of the process by which rights to emit carbon dioxide were created and distributed in the European Emissions Trading Scheme. This is the world's first large-scale experiment with an emission trading system for carbon dioxide and is likely to be copied by others if there is to be a global regime for limiting greenhouse gas emissions. The book consists of contributions by participants in the allocation process in ten representative member states and at the European Commission. The problems encountered by these ten representative countries, the solutions found and the choices they made, will be of interest to all who are concerned with climate policy and the use of emissions trading.

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Rights, Rents and Fairness

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If factors of production are thought of as rights, it becomes easier to understand that the right to do something which has a harmful effect . . . is also a factor of production.

Ronald Coase,
The Problem of Social Cost

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Foreword

Environmental policy-making in Europe has undergone a profound change over the last two decades: new policies have been initiated primarily at the EU rather than Member State level, and the influence of economic thinking has become quite important. There is probably no other policy area where this shift is clearer than on climate change, and the development of the EU ETS is undoubtedly the most remarkable example of both developments.

It was indispensable for all those involved in the development of climate change policy to be able to rely on solid academic work in both Europe and the world at large. It is very welcome for me as a policy-maker that this work is not limited only to conceptual thinking, but also takes in the evaluation of practical choices made in mundane matters such as allocation. This book is therefore a timely contribution for all those involved in the design of further trading schemes around the world for the first Kyoto Protocol period 2008–2012 and beyond.

All observers realised that the learning-by-doing phase of the EU ETS in 2005 would be challenging from several perspectives. Perhaps the most important was the absence of a comprehensive database concerning the emissions of the 11,500 installations covered by the EU ETS. Many pragmatic solutions had to be invented on the spot by the national officials in the capitals and in the Commission's offices. In the meantime, the first compliance cycle came to an end on 15 May 2006, and this has generated a wealth of verified real-life emissions data for the year 2005 at the level of each installation. The process of designing allocation plans for the trading period 2008–2012 will benefit a lot from this empirical base, as all those involved have moved up the NAP learning curve in a significant manner. And this applies not only to policy-makers, but also to companies and academics.

The new piece of analysis in front of us brings also a number of insights which will influence the policy process much beyond the NAP process. The legislators may have underestimated the significant

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distributional battle that every allocation process entails, between Member States, between sectors, and within sectors. Sorting these out in a satisfactory manner was a precondition for the solid implementation of the EU ETS. Moreover the small print of the allocation plans may also have a considerable impact on the effectiveness of the system. It is of utmost importance to acquire a thorough insight into all aspects of this allocation experience, not least in the light of the review of the EU ETS Directive. It would be surprising if the decentralised nature of the allocation process, the structure of twelve general criteria and the limited role of auctioning would not become major issues in the preparation of the EU ETS for the post-2012 period.

Jos Delbeke
DG Environment
European Commission
July 2006

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In order to prepare this book, two workshops were organised in which the contents of the different chapters were discussed. We are therefore grateful to the staff of the Fondazione Eni Enrico Mattei, and in particular to Rita Murelli and Barbara Racah, who helped to organise the workshops and who provided useful assistance throughout the preparation of this book.

Several discussions and comments from friends and colleagues have improved our understanding of the EU ETS allocation process. We thank our colleagues at the Fondazione Eni Enrico Mattei, at the Massachusetts Institute of Technology Center for Energy and Environmental Policy Research and at the Joint Program on the Science and Policy of Global Change for helpful remarks and suggestions. Comments from participants at seminars in Cambridge, MA and in Venice and from those colleagues who attended the special session on the design of climate policy at the 3rd World Congress of Environmental Economists in Kyoto are gratefully acknowledged.

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AAU	Assigned Amount Unit
Accession countries	This term is usually used to refer to the ten new EU Member States from Central and Eastern Europe, which joined the European Union on 1 May 2005 (Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia and Slovenia)
Allowance	According to the EU ETS Directive Article 3(a), ‘allowance’ means an allowance to emit one tonne of carbon dioxide equivalent during a specified period, which shall be valid only for the purposes of meeting the requirements of this Directive and shall be transferable in accordance with the provisions of this Directive
Annex B	The list of countries taking on legally binding commitments along with a listing of their actual commitments as defined in the Kyoto Protocol
Annex I	Industrialised countries that, as parties to the UNFCCC, have pledged to reduce their greenhouse gas emissions by the year 2000 to 1990 levels as per Article 4.2 of the Kyoto Protocol are listed in Annex I. Annex I Parties consist of countries belonging to the OECD, the Economies-in-Transition and Turkey
Banking	Saving emission permits for future use in anticipation that these will accrue value over time

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Baseline	Reference scenario which is used for comparisons with other scenarios
Base year	Year that serves as base for calculation of emission targets. In the UNFCCC and the Kyoto Protocol it is 1990 for Annex I countries (except Bulgaria 1988, Hungary average 1985-87, Poland 1988, Romania 1989). A base year may also be used as a reference for establishing an emissions baseline, or standard by which to measure verifiable changes in carbon stocks for the purpose of determining net changes of GHG emissions from anthropogenic land-use change and forestry activities
Basket	The six gases CO ₂ , CH ₄ , N ₂ O, HFC, PCF and SF ₆ form a basket in which the Kyoto commitments are denominated
BAT	Best available technology
BAU	Business as usual
Benchmark	A measurable variable used as a baseline or reference in evaluating the performance of projects or actions
Bubble	The idea that emissions reductions anywhere within a specific area count toward compliance. The possibility of forming a 'bubble' represents one of the flexible mechanisms included in the Kyoto Protocol
BSA	The Burden Sharing Agreement or so-called European Bubble allows the EU to reallocate its overall Kyoto target of -8% among the different EU Member States. In June 1998, a political agreement has been reached on the allocation of emission reduction efforts within the EU. The reduction commitments of each EU Member State can be found in the Communication from the Commission to

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	the Council and the European Parliament (COM(99) 230 final, 19 May 1999)
Cap	Absolute emissions limit
Carbon dioxide equivalent	The concentration of CO ₂ that would cause the same amount of radiative forcing as the given mixture of CO ₂ and other greenhouse gases
Carbon sequestration	The uptake and storage of carbon; trees and plants, for example, absorb carbon dioxide, release the oxygen and store the carbon
Carbon sink	Any reservoir that takes up carbon released from some other part of the carbon cycle; for example, the atmosphere, oceans and forests are major carbon sinks because much of the CO ₂ produced elsewhere on the Earth ends up in these bodies
CCGT	Combined cycle gas turbine
CDM	Clean Development Mechanism: in Article 12 of the Kyoto Protocol, the parties established the CDM for the purposes of assisting developing countries in achieving sustainable development and helping Annex I parties meet their emissions targets; carbon currency: certified emission reduction units (CERs)
CER	Certified emission reduction unit
CHP	Combined heat and power
CO ₂	Carbon dioxide: the main greenhouse gas affected directly by human activities
COP	Conference of the Parties: the supreme body of the UNFCCC
Directive	In our context, the reference to the Directive usually denotes the Directive 2003/87/EC of the European Parliament and of the Council of 13 October 2003 establishing a scheme for greenhouse gas emission allowance trading within the Community

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	and amending Council Directive 96/61/EC, <i>OJ L 275</i> , 32–45, 25 October 2003
EC	European Commission
ECJ	European Court of Justice
Economies in transition	The countries listed in Annex I or Annex B that are undergoing the process of transition to a market economy but that are also classified along with the EU, Japan and the US as Annex I parties to the UNFCCC
Emissions leakage	A concept often used by policy-makers in reference to the problem that emissions abatement achieved in one location may be offset by increased emissions in unregulated locations
Emission permit	In general a tradable entitlement to emit a specified amount of a substance. In the context of the EU ETS, the operators of included installations need to hold a ‘greenhouse gas emissions permit’ issued by a competent authority in accordance with Articles 5 and 6 of the EU ETS Directive
ERU	Emissions reduction unit
ETS	Short for EU ETS
EU	European Union
EUA	European Union Allowances
EU ETS	The European Union Emissions Trading Scheme, specified by the Directive 2003/87/EC, and launched in January 2005
GHG	Greenhouse gas: any trace gas that does not absorb incoming solar radiation but does absorb longwave radiation emitted or reflected from the Earth’s surface. The most important greenhouse gases are water vapour, carbon dioxide, nitrous oxide, methane and chlorofluorocarbons (CFCs).
Hot air	The amount by which an Eastern European country’s Kyoto Protocol target exceeds its

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	probable emissions in 2012 even without any abatement actions. The reason for this excess emission reductions is the economic collapse which these countries suffered after the base year 1990
Installation	According to the EU ETS Directive Article 3(e), 'installation' means a stationary technical unit where one or more activities listed in Annex I are carried out and any other directly associated activities which have a technical connection with the activities carried out on that site and which could have an effect on emissions and pollution
International Emissions Trading	Emission trading as defined in Article 17 of the Kyoto Protocol; carbon currency: Assigned Amount Units (AAUs)
IPPC	Integrated Pollution Prevention and Control
JJ	Joint Implementation: GHG mitigation projects between developed countries as defined in Article 6 of the Kyoto Protocol; carbon currency: emission reduction units (ERUs)
Kyoto Mechanisms	Generic term for the flexible mechanisms of the Kyoto Protocol: bubbles, JJ, CDM and international emissions trading
KPD	Known planned development
MS	Member State of the European Union
MW _{th}	Megawatt thermal
NAP	National Allocation Plan. For each period of the EU ETS, each Member State is supposed to develop a national plan stating the total quantity of allowances that it intends to allocate for that period and how it proposes to allocate them
Non-Annex I country	Any country that does not belong to Annex I of the UNFCCC, i.e. the developing countries and some countries in transition

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NER	New Entrant Reserve set aside for any installation carrying out one or more of the activities indicated in the Directive, which has obtained a GHG permit or an update of its GHG emissions permit because of a change in the nature or functioning or an extension of the installation
NO _x	Nitrogen oxides
Operator	According to the EU ETS Directive Article 3(f), ‘operator’ means any person who operates or controls an installation or, where this is provided for in national legislation, to whom decisive economic power over the technical functioning of the installation has been delegated
SO ₂	Sulphur dioxide: a gas representing a form of air pollution. It results from the combustion of fuels that contain sulphur, most prevalently from coal
UNFCCC	United Nations Framework Convention on Climate Change: a multilateral agreement that lays the basis for international climate negotiations
VOC	Volatile organic compounds