European Economic and Social Committee

INVESTMENT IN IMPROVING THE ENVIRONMENT AND IN REMEDIATION OF ENVIRONMENTAL DAMAGE

Comparative Study of different measures funded through the use of the economic environmental instruments

Citation and disclaimer

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Lead author: Jane Desbarats
Contributions from: Tomas Badura, Patrick ten Brink

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LIST OF ABBREVIATIONS

AAU: Assigned Amount Unit

CCS: Carbon Capture and Storage

CO_2: Carbon dioxide

EHS: Environmentally Harmful Subsidy

EIA: Environmental Impact Assessment

EUA: European Union Allowance

EU-ETS: European Union Emissions Trading Scheme

GDP: Gross Domestic Product

GHG(s): Greenhouse gases

GIS: Greening Investment Scheme

IA: Impact Assessment

IET: International Emissions Trading

KT: Kilotonne

MBI: Market based instrument

MT: Megatonne

NAP: National Allocation Plan

NER: New Entrants Reserve

NGO: Non-governmental Organization

NOx: Nitrogen oxides

OECD: Organization for Economic Cooperation and Development

UNFCCC: United Nations Framework Convention on Climate Change

KEY MESSAGES

Market Based Instruments (MBIs)

1) **There is a diverse and evolving use of market based instruments (MBIs) to leverage environmental improvements within and across Member States of the EU**. MBIs vary with respect to their contextual application, scope and ambition. Their design impacts their direct incentive effect and ability to generate revenue, as well as offering different opportunities for the engagement of civil society. Their general effectiveness in terms of leveraging environmental improvements varies significantly across environmental issues and Member States.

2) **The application of the EU subsidiarity principle has shaped implementation of MBIs at the national level.** Member States maintain full competency and sovereignty for MBIs in general, with some exceptions as agreed to within the scope of European legal frameworks such as the European Union Emissions Trading Scheme (2009/29/EC), the Energy Taxation Directive (ETD) (2003/96/EC), the requirement for cost recovery under the Water Framework Directive (2000/60/EC), the Environmental Liability Directive (2004/35/EC), and the Eurovignette Directive (for transport infrastructure charging) (2011/76/EU). Even in cases where EU regulation is more directly applied to Member States, there remains significant scope for Member State discretion with respect to the implementation of MBIs, and the utilisation of revenue.

Revenue Raising and Earmarking

3) **The current demand for climate finance warrants careful consideration of the revenue available through MBIs.** The text of the Cancun Agreements from the COP XVI UNFCCC negotiations urged all Parties to the Kyoto Protocol to mobilise climate funds in the order of $100 billion per annum up to 2020 to address adaptation to climate change in developing countries. A report completed for the UN Secretary General's High Level Advisory Group on Climate Financing (2010), indicates how auctioning revenue available through the EU Emissions Trading Scheme (EU-ETS) could be used to meet this international commitment to climate finance.

4) **All MBIs have the ability to generate revenue, but the volume and specific utilisation of this revenue can vary.** The potential to 'earmark' revenue varies between MBIs given their different objectives and the national circumstances surrounding their implementation. In implementing the Nitrogen Oxide (NOx) charge in Sweden for example, 1% of revenue is levied to cover the cost of its administration; the remaining revenue is returned to participants that have successfully mitigated NOx emissions. In Germany, 100% of European Union Allowance (EUA) auctioning revenue raised in Phases II and III of the scheme will be invested in projects that improve the environment. In 2012, this represented a total of €780 million.

EU-ETS

5) **The revenue raised through the auctioning of European Union Allowances (EUAs) from the EU Emissions Trading Scheme (EU-ETS) offers a particularly important opportunity to fund environmental improvements throughout the EU, and to meet the shortfall in international climate finance. Based on an ideal scenario where the estimated carbon price of EUAs is €30/tonne, the total amount of revenue generated in Phase III of the Scheme could be as high as €31 billion.** However, if carbon is being traded at €8/tonne for example, the total amount of revenue that would be generated is roughly €8 billion. Maintaining a high price for carbon is crucial in order to generate adequate revenue streams.

6) **The EU-ETS has evolved since its inception in 2005. The potential to stimulate a prolonged demand for greenhouse gas reductions has required a transition from the free allocation of carbon credits (EUAs) in the first two phases of the scheme (2005-2007 and 2008-2012), to the gradual phasing in of the auctioning of EUAs up to 2020.** In the long run, increasing rates of auctioning will increase EUA scarcity thus raising the price of carbon, and the potential to generate more government revenue. Member States were able to auction a certain percentage of EUAs under the first two phases of the scheme. According to Directive 2003/87/EC countries were allowed to auction 5% of their total amount of free allocation as outlined in their respective National Allocation Plans in the first phase (2005-2007) or 'trial period' of the EU-ETS. This increased to 10% in the second phase of the scheme (2008-2012).

   In the third phase (2013-2020), however, there is less free allocation of EUAs given increased rates of auctioning. The aviation sector will receive 85% of its allowances through free allocation based on a predetermined benchmark, while the power sector will be required to purchase 100% of its emissions through auctions (with some exceptions allowed for power generation in new Member States). As outlined in Figure 2, the amount of free allocation varies by sector over all three phases of the scheme. Unlike Phases I and II of the scheme where Member States could choose to auction percentages of their national allocation based on specific thresholds, the auctioning levels outlined for Phase III represent minimum legal requirements for the sectors in question.

7) **The EU-ETS Directive (2009/29/EC) requires Member States to ensure that at least <u>an equivalent of 50% of auctioning revenue</u> is directed towards recommended climate funds and project types (internationally and within the EU). Earmarking is not legally mandated at the Member State level given national practices and legal constraints.** At the current time, there is little information available to determine how earmarking will be undertaken at Member State and EU levels, with the exception of Germany. More importantly, there is no information available to determine how EU level auctioning revenue will be distributed among Member States, and whether it will overlap with earmarked revenue from national auctions.

Effectiveness of MBIs and the Role of Earmarking

8) **The effectiveness of MBIs in leveraging environmental improvements can be attributed to a number of different factors** including: (a) timing and policy longevity; (b) price signals and high elasticity of demand; (c) the allocation and use of revenues; (d) transparency of reported environmental data; (e) civil society engagement; (e) the level of institutional capacity and other national constraints or circumstances; and (f) effective earmarking. MBIs can still be effective in cases where revenue is not utilised. The table in the Annex provides an overview of MBI effectiveness based on the results of eight case studies.

9) **There is evidence to suggest that effective earmarking can enhance the effectiveness of MBIs, and their ability to leverage environmental improvements.** Earmarking can result in long term fiscal obligations, giving governments less flexibility in terms of allocating revenue to specific policy priorities. However, earmarking is also a useful way of protecting longer term policy issues from shifting government priorities. With respect to climate finance, it could be effective in cases where revenue streams are predictable, where the volume of revenue is manageable, and where the right type of governance structure has been put in place as part of a longer term fund management strategy. Earmarking offers more flexibility in cases where the volume of revenue is large enough to be declared 'off-budget' as part of a pool of funds, and where decisions pertaining to its expenditure are broad, and are not constrained by the accounting associated with standard budgetary line items.

   Earmarking is also used as a way of ensuring that the transparency of budgetary practices is maintained, thus allowing for the engagement of civil society. Earmarking is seen as a positive means for engendering public support for MBIs and trust in government, as a correlation between environmental objectives and the use of revenue can be easily observed.

Civil Society Engagement

10) **There are a number of formal mechanisms in place to promote civil society**, including the enactment of EU legislation and international agreements including the Aarhus Convention. Specific EU legislation includes: Directive 2003/35/EC related to Environmental Impact Assessment; the Strategic Environmental Assessment Directive 2001/42/EC; Directive 2003/4/EC on public access to environmental information, and the Environmental Liability Directive 2004/35/EC which provides provisions for public participation.

11) **There are examples of interesting practices aiming to involve civil society in MBIs.** In implementing a Greening Investment Scheme, the Czech Republic involved civil society in two distinct phases of the earmarking process: in decisions related to the allocation of revenue, and in its subsequent expenditure. Civil society was indirectly involved in the allocation of revenue to specific programmes and policy priorities through representation on a specialised committee, and more directly through the implementation of household energy efficiency projects. As a result, civil society developed an increased awareness of climate change issues and the need to reduce

greenhouse gases. As a result, greenhouse gas emissions were reduced by 25 kilo-tonnes per year in 2009-2010 in the residential buildings sector.

12) **There is the potential to improve practices that enhance the role of civil society in MBIs through the timing of consultation and general transparency of the process itself**. The potential to involve civil society in the implementation of MBIs should consider national context, and national interpretation of EU legal instruments. The appropriate involvement of civil society will be a reflection of this context. In cases where standard practise is poor, enhancing civil society involvement may be necessary in order to enhance the credibility of the MBI in question.

Summary and Way Forward

13) **There is currently a lack of guidance in relation to effective earmarking of EUA auctioning revenue and the precise role of civil society.** Although Germany has undertaken transparent accounting of EUA auctioning revenue, there are not enough examples to determine what constitutes 'best practice'. Nevertheless, the German example serves as a useful starting point in terms of identifying 'good practice'. The discussion of MBI effectiveness included in the report upon which this briefing is based, and the proposed 'good practice' guidelines, are intended to contribute to an anticipated debate regarding the potential for civil society to effectively engage in the allocation of auctioning revenue by both the EU and Member State governments.

In summary, the effective utilisation of revenue from MBIs is a way to achieve environmental improvements in line with the promotion of a Green Economy. Given the existing shortfall in climate finance, the revenue generating potential of EUA auctioning should not be overlooked. Member States should consider arguments supporting both effective earmarking practices and the benefits of involving civil society in the allocation and expenditure of earmarked revenue.

Table 1 Comparative Overview of MBI Effectiveness

Country and MBI	Status of Earmarking and Revenue Use	Environmental Improvement and Civil Society	Factor for Success/Failure
Spain: Landfill Tax	Utilisation of revenue from the landfill tax to fund improved waste management practices.	Improved household waste management practices. Positive response to price signals and resulting behaviour change.	Effective price signal; effective allocation of revenue.
Slovenia: CO_2 Tax on Energy Products	Revenue used to fund the implementation of six Combined Heat and Power facilities.	Limited uptake of clean technologies. No known impact on greenhouse gas reductions or improved energy efficiency.	The combination of taxation with numerous exemptions, reduced the ability of the tax to reduce the demand for fuel, and to reduce GHGs.
Slovakia: International Emissions Trading	No earmarking undertaken.	None – no significant environmental improvements given that the revenue obtained from the sale of surplus Assigned Amount Units (AAUs) was only used to meet Kyoto compliance targets.	Sale of surplus AAUs not used to fund environmental projects.
Czech Republic: Greening Investment Scheme	Successful earmarking of revenue earned from the sale of AAUs as part of a Greening Investment Scheme.	The revenue was used to fund a number of different project types with a focus on household energy efficiency. Resulted in reduction of 25KT of GHGs per year in 2009-2010.	Transparency of revenue use; deliberate integration of civil society in the implementation of funded projects.
Germany: Utilisation of EUA Auctioning Revenue	Successful earmarking of revenue earned through the sale of European Union Allowances (EUAs).	Revenue has been used to fund household and community level energy efficiency, and future revenue will be used to fund other environmental priorities including biodiversity and conservation. Energy usage reduced by up to 90% from 2008-2012.	Political commitment to: earmarking, to the domestic and international use of revenue, to energy efficiency, local engagement and renewable energy technologies.
United Kingdom: Utilisation of EUA Auctioning Revenue	Rejection of earmarking in all phases of the scheme.	Given the lack of transparency around the use of EUA auctioning revenue, it is difficult to determine the extent of environmental improvements. Implementation will have resulted in greenhouse gas reductions equivalent to the total sale of EUAs, but this is separate from the revenue raised.	Difficult to determine impacts due to lack of earmarking and associated data transparency.
Ireland: Utilisation of EUA Auctioning Revenue	Proceeds from EUA sales used to cover the cost of administering the scheme.	Revenue was not used to fund environmental projects. The volume of tonnes auctioned would represent an equivalent amount of greenhouse gas reductions. Similar to the situation in the UK, this pertains to the implementation of the MBI and auctions, and not to the usage of the revenue they generated.	Pilot trade; not intended to achieve significant environmental improvements.
Sweden: NOx Charge	Proceeds from the charge used to cover the cost of administering the scheme.	NOx emission rate decreased by 50% from 1992-2007. Positive response to price signals and resulting behaviour change.	Appropriate price signals and effective governance.

1 INTRODUCTION

This final report on 'Investments in Improving the Environment and in Remediation of Environmental Damage – Comparative Study of Different Measures Funded through the Use of Economic Environmental Instruments' has been prepared by IEEP for the European Economic and Social Committee (EESC), to fulfil the requirements of contract EESC/COMM/09/2011. In summary, the primary objective of the report is to determine what constitutes best practice in terms of implementing market based instruments (MBIs) that achieve environmental improvements, while considering the role of civil society in so doing. Referring to the initial terms of reference (EESC/COMM/09/2011), the three main objectives are:

1. To provide an overview of current practice with regard to investing the revenues from economic environmental instruments into environmental projects across the EU Member States, and in particular the re-investment of proceeds from the European Union Emissions Trading Scheme (EU-ETS);
2. To evaluate the effectiveness of these investments in bringing about environmental improvements; and
3. To establish best practices in the field, develop recommendations and highlight the role of organised civil society in this process.

The contents of each chapter of the report, and the applied research methodologies, content and methodologies applied are outlined below:

Chapter 2: Provides definitions for a range of MBIs and a general analysis of MBI and earmarking effectiveness.

Chapter 3: Provides an overview of the methodology used to select eight case studies for analysis, representing a range of MBIs across the EU, in addition to the case studies themselves.

Chapter 4: Synthesises the research completed in Chapters 2 and 3. The effectiveness of MBIs and earmarking are compared, referring to the lessons learned from the case studies.

Chapter 5: Provides a definition of civil society, and a description of its involvement in the MBIs reviewed as part of the case study research. An overview of key legislation related to civil society is provided.

Chapter 6: Determines good practice for the investment of revenue in environmental projects on the basis of the case studies, and the research completed in all chapters. The potential role of civil society is outlined. Recommendations are provided in relation to: the application of good practice for the implementation of MBIs and their ability to generate revenue; the ability of earmarking to effectively allocate this revenue to projects that improve the environment; and the potential for civil society to participate in both the design of MBIs and their implementation.

2 OVERVIEW OF MARKET BASED INSTRUMENTS

2.1 Introduction

National and international policies to improve the environment have involved a mix of regulatory measures; market based instruments (MBIs), voluntary measures and information based tools. Regulation is generally based on legally enforced compliance targets and standards (emissions standards, ambient air quality standards, product and process standards), while the implementation of MBIs is based on the 'polluter pays principle', where those responsible for the creation of externalities (from waste generation to greenhouse gas emissions) should pay for the damages they have caused, as well as the principle of full cost recovery, where users should pay the costs of the good or service from which they benefit.

According to the OECD, 'Market-based instruments seek to address the market failure of "environmental externalities" either by incorporating the external cost of production or consumption activities through taxes or charges on processes or products, or by creating property rights and facilitating the establishment of a proxy market for the use of environmental services.'[1] If we deconstruct the OECD definition, MBIs fall into two general categories: those that correct for market failures (such as taxation), and those that create a market demand for environmental services and technologies (such as emissions trading).

In this chapter we provide definitions for both types of MBIs based on a review of the relevant literature and consultation with known experts where necessary. Our research considers the possibility that effective earmarking could enhance the use of revenue from MBIs, despite opposition to the practice. Typically, earmarking has been criticised for its economic inefficiency, and the fact that it can reduce the flexibility of governments to allocate revenue from one policy priority to another. A discussion of climate finance needs in section 2.2 indicates that the potential for earmarking European Union Allowances (EUA) auctioning revenue (known hereafter as earmarked EUA revenue) to meet the demand for climate finance must consider a number of realities associated with the carbon market.

1. See: http://stats.oecd.org/glossary/detail.asp?ID=7214, accessed July 2, 2012.

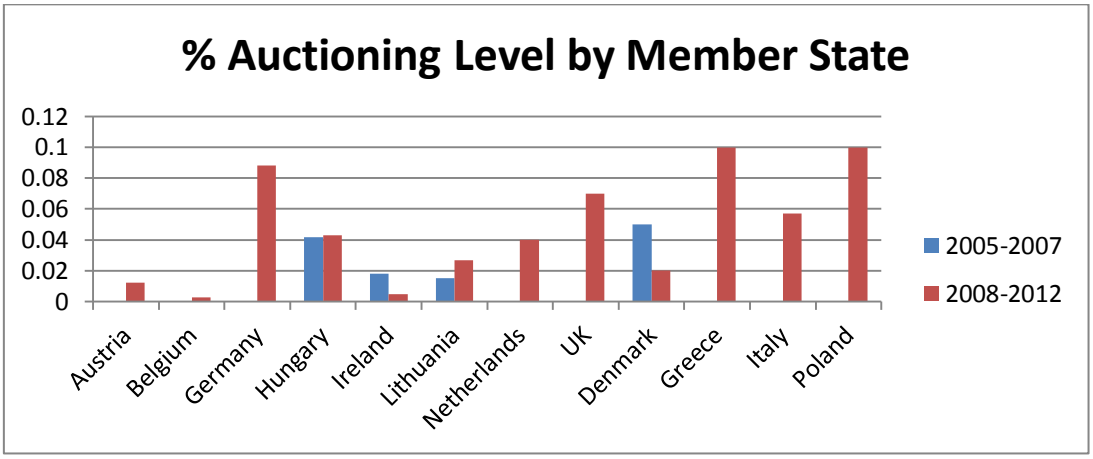
2.2 The Potential of EUA Auctioning Revenue to Meet Climate Finance Needs

The Cancun Agreements urge Parties to the Kyoto Protocol to mobilise $100 billion per annum in order to help developing countries cope with adaptation to climate change. Work completed by the United Nations in 2010, as part of the Secretary General's High Level Advisory Group on Climate Change Financing, considers the possibility that revenue raised through auctioning under the EU-ETS could address this financial shortfall. Given the current shortage of public finance throughout the EU, earmarked EUA revenue could serve as a useful revenue stream for both international climate finance and for projects that fund environmental improvements within the EU.

The EU-ETS has been heavily criticised for its inability to incentivise 'real' greenhouse gas emissions reductions in the first two phases of the scheme (2005-2007 and 2008-2012), given the free allocation of EUAs to participating installations. This involved allocating a certain number of allowable emissions to installations as part of National Allocation Plans (NAPs), providing them with initial relief from emissions reductions targets. Many installations received too many EUAs, the market was flooded, and the price of carbon crashed. In order to restrict the amount of EUAs on the market in the third phase of the scheme (2013-2020), the EU-ETS Directive (2003/87/EC) included provisions for increased rates of auctioning. In theory, phasing in an increasing scarcity of EUAs should increase the price of carbon and hence the potential for revenue generation as part of auctioning.

Member States were able to auction up to 5% of the allowable emissions in Phase I, and up to 10% in Phase III. These auctions were largely considered to be pilots, and were based on the auctioning of EUAs as outlined in NAPs. The indicative levels for Phase III represent minimum legal requirements. A limited number of Member States chose to auction EUAs in the first two phases of the scheme, as outlined in Table 2-1 below. The rate of mandatory auctioning will increase throughout Phase III of the scheme (2013-2020) as indicated in table 2-2. Information pertaining to projected auctioning levels for Phase III is outlined in table 2-3. The information in table 2-3 pertains only to auctioning at the Member State level. While a few countries have chosen to undertake their own auctioning, in consultation with the Commission, the majority of Member States have chosen to participate in an EU level Common Auctioning Platform given their respective lack of auctioning experience.

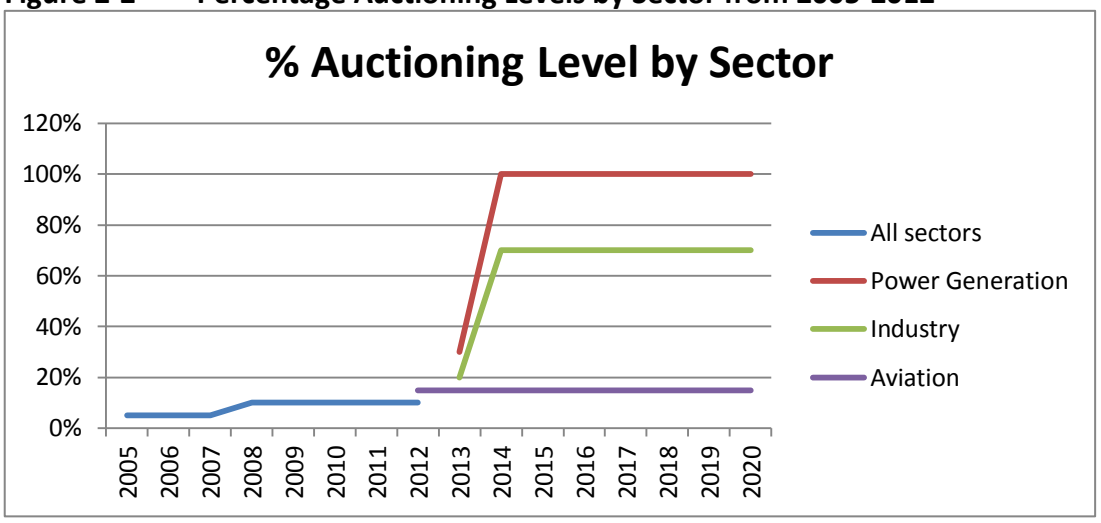
Figure 2-1 Auctioning by Member State in Phases I and II



Fazekas, 2009

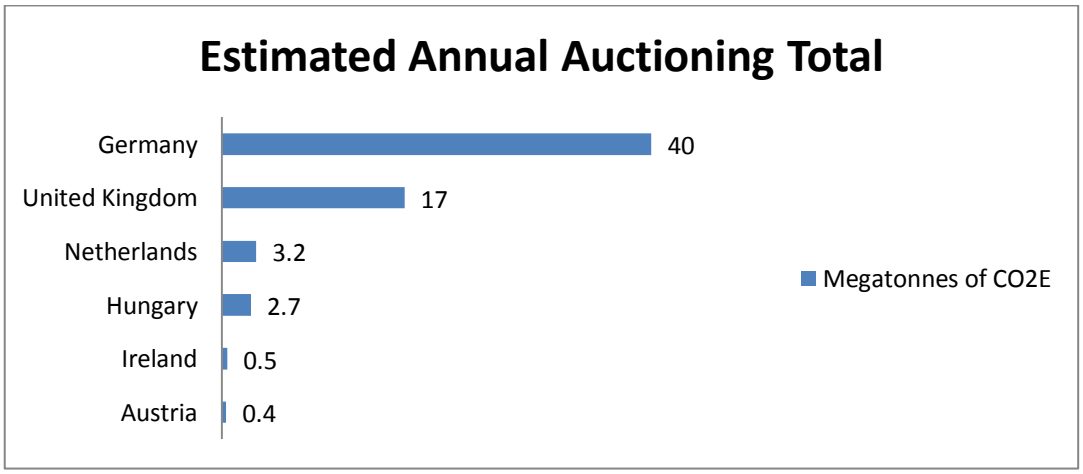
Note that the numbers presented for Denmark, Greece, Italy and Poland in Phase II include credits falling outside the scope of NAPs. These are credits obtained from closed installations and from unclaimed credits of the New Entrants Reserve.

Figure 2-2 Percentage Auctioning Levels by Sector from 2005-2012



Source: IEEP, 2012

Figure 2-3 Phase III National Auctioning Levels: 2013-2020

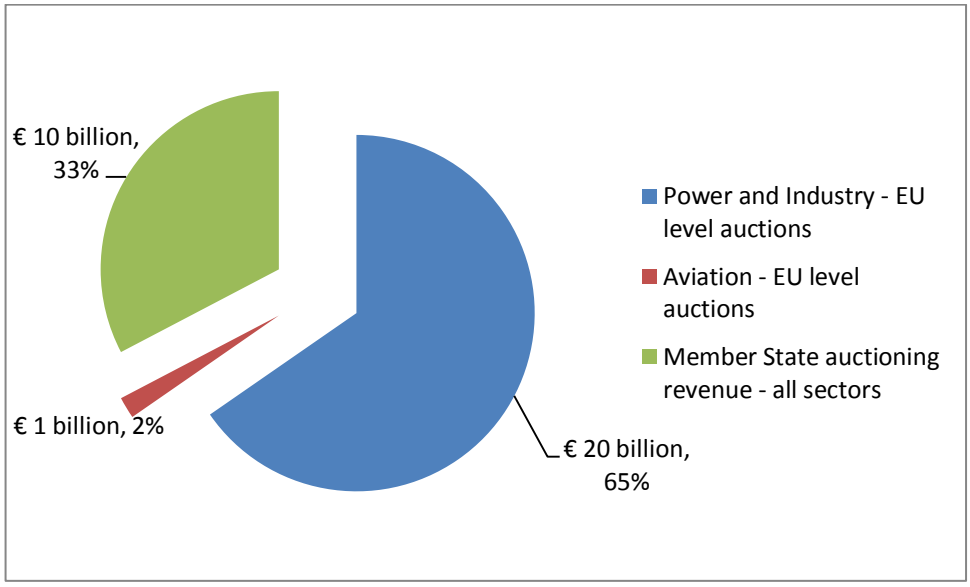


Source: IEEP, 2012

The EU-ETS Directive (2009/29/EC) requires Member States to ensure that at least an equivalent of 50% of auctioning revenue is directed towards recommended climate funds and project types (internationally and within the EU). As such, earmarking is not legally mandated at the Member State level given national budgetary practices. Given that countries are not yet required to report the usage of auctioning revenue, there is no information available to determine how earmarking will be undertaken at the Member State and EU levels, with the exception of Germany. In addition, it is not yet possible to determine how EU auctioning revenue will be distributed among Member States, and whether the recipients of its expenditure will overlap with those receiving revenue from national auctions. (Enting and Reich, publication forthcoming.)

The total amount of revenue generated by national auctions is expected to represent a relatively small percentage of total auctioning revenue in the EU. As outlined in Figure 1, auctioning revenue raised through a common EU platform comprises roughly 68% of the total revenue potential. Based on an optimistic scenario where EUAs are trading at €30/tonne, the following revenue stream per annum could be envisioned up to 2020:

Figure 2-4 Total Amount of Annual EUA Revenue to 2020



Source: European Commission, 2011

At €30/tonne, roughly €31 billion of revenue is generated on an annual basis. If we consider a more pessimistic carbon price scenario of €8/tonne, government revenue generated through EUA auctioning would total roughly €8 billion per annum. Given this reality, the importance of maintaining a high price for carbon should not be underestimated.[2] The ability of auctioning to generate revenue is inseparable from the dynamics of the carbon market, which in turn is a reflection of climate politics.

2. See: www.pointcarbon.com, accessed April 30, 2012. The value of a forward trade for December 2012.

Downward pressure on the price of carbon is commonly attributed to the lack of a legally binding international agreement on climate change, and the uncertainty surrounding the continuation of the Kyoto Protocol as part of a third Commitment Period.[3] Assessing the future revenue generating potential of EUA auctioning should therefore consider the novelty of the instrument, and the risk of variable revenue generation associated with the volatility of the carbon market. (Auctioning is described in greater detail in section 2.2.3.)

2.3 Definition of Market Based Instruments

All MBIs lead to revenue flows. A wide range of MBIs have been implemented throughout the EU to help mitigate externalities in relation to specific national environmental problems. Revenue generated by MBIs is allocated by governments in different ways. Broadly speaking, MBIs such as charges can be revenue neutral, and only seek to cover the costs of their implementation. Compliance fees associated with environmental liability instruments on the other hand, have typically been less successful in terms of raising enough revenue from non-compliant polluters to address the costs of externalities. (EEA, 2005)

Product taxes, pollution taxes, fuel related taxes, aggregate taxes, forestry stumpage fees and vehicle registration taxes all generate revenue that can potentially be, and indeed has been, earmarked in certain countries. The possibility to earmark revenue should consider the scale of revenue raised in all cases. This is discussed in greater detail in section 2.3. For example, resource charges associated with water pricing can generate revenue for cost recovery, but in economies in transition for example, have been used to create substantial revenue used to create environmental funds. Subsidies involve the use of public money to lower the costs of goods or services, and some economists would argue that tax exemptions represent indirect subsidies.[4] It is possible that subsidy reform, by transferring funds between budget line items in national accounts, could raise funds to address environmental issues.

Here we focus on definitions for the MBIs that address market failures in section 2.2.1: taxes, charges, fees and subsidies. We discuss the potential for different forms of emissions trading to incentivise greenhouse gas emissions reductions, focussing on the specific potential of auctioning in sections 2.2.2 and 2.2.3.

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[3]. A number of analysts maintain that without a binding international agreement to reduce GHG emissions, the price of carbon will remain low. The design of auctions will be critical and may have to occur frequently throughout the year to benefit from potential price peaks. The European Commission has suggested that in reducing greenhouse gas emissions by 30% as opposed to 20% of 1990 levels, more auctioning revenue could be generated. (Grießhaber, 2011) Under this scenario demand for carbon would be stimulated, and the competition for carbon as part of potential auctions would intensify. In turn the price for carbon would be driven up thus generating more revenue.

[4]. See: http://www.wto.org/english/res_e/booksp_e/anrep_e/wtr06-2b_e.pdf, accessed July 2, 2012.

2.3.1 Correcting Market Failures: Taxes, Charges, Fees and Subsidies

Fees and Charges: The European Environment Agency (EEA) defines the terms **'charges'** and **'fees'** as 'compulsory and requited payments to general government, or to bodies outside general government, such as environmental funds or water management boards.' (EEA, 2005) Unlike taxation, the amount of revenue generated is typically commensurate with the resulting benefits. Fees and charges are generally used to encourage more efficient resource use, and to help discourage the exploitation of resources. The actual amount of the charge or fee is determined based on the ratio between the amount of pollution generated and the amount of resources used, and is typically implemented on a cost recovery basis only. They have typically been used for example as part of water abstraction charges, or in relation to 'tipping fees' for disposal of waste at landfill sites. While they offer a dynamic way to moderate resource use, their ability to result in environmental improvements depends on the amount of the charge.

Examples of charges include:

- Water supply charges for households in most countries;
- Water abstraction charges that go beyond cost recovery have been implemented in: DK, FR, DE, NL, UK;
- Waste water charges have been implemented in: NL, DK, DE, ES, UK, BE, FR, NL and most Central and Eastern European countries;
- Household waste charges have been implemented in most EU Member States; and
- Product charges, for example on plastic bags (IE), batteries (DK), razors, disposable cameras, and disposable cutlery (BE).

Taxes: The OECD provides the following definition for an environmental tax: 'a well-designed environmental tax increases prices to reflect the cost of environmental harm that it imposes on others. The cost of the harm to others – 'an externality' – is thereby internalised into market prices. This ensures that consumers and firms take these costs in to account in their decisions.' (OECD, 2011) Typically, taxes, charges and fees have the potential to increase prices thereby discouraging consumer purchasing and resource use, serving to influence individual and business behaviour. However, although it is easy to estimate the first order effect of taxes in terms of increased prices, consumer reaction and revenue raised, determining their impact on environmental outcomes is less straightforward. (OECD, 2011) Generally (with exceptions) taxes are not set at rates to reflect externalities, but are rather based on practical considerations of providing incentives at a level that is 'acceptable' within the political economic timeframe.

Subsidies: A subsidy represents 'government action that confers an advantage on consumers or producers in order to supplement their income or lower their cost.' (OECD, 2005) Subsidies can be provided in several forms, for example grant financing, lower-interest loans, loan guarantees or differential pricing. The ability of taxes to achieve environmental improvements can be undercut by exemptions and related government subsidies. (OECD, 2011)

2.3.2 Stimulating Market Demand for Environmental Services

Unlike taxes, charges and fees, which use price signals to change behaviour, purchasing decisions and resource use, tradable permit schemes stimulate a demand for environmental services and the resulting environmental improvements. Here we describe two versions of greenhouse gas (GHG) emissions trading; international emissions trading under the Kyoto Protocol and the EU-ETS.

International Emissions Trading and the Kyoto Protocol: The Kyoto Protocol undertook its own form of free allocation by allocating permits or carbon credits known as Assigned Amount Units (AAUs) to Annex I countries (developed countries). All developed countries received a certain number of AAUs based on their level of economic development in the Kyoto baseline year of 1990. Countries with higher levels of economic development received fewer AAUs, requiring them to undertake greater efforts to reduce emissions. Given that all Eastern European countries restructured their economies in the 1990s, they received a surplus number of AAUs that could be sold as part of International Emissions Trading (IET) under the Kyoto Protocol.

Unlike other tradable permit schemes, AAUs can be traded before the actual emissions reduction has occurred. For this reason, a number of potential purchasing countries have referred to AAUs as 'hot air' claiming that they do not represent real reductions. The notion that AAUs could be invested into projects improving the environment was deemed to be a necessary tool in improving the political credibility of the units. Economies in transition could therefore, in theory, sell AAUs based on clearly defined programmes that would recycle revenue into projects that improved the environment. Although AAUs cannot be used to meet reduction targets under the EU-ETS, a number of countries have sold units to purchasers outside the EU through what has become known as 'Greening Investment Schemes'. However, as the case study research will indicate, not all countries that have participated in IET have implemented Greening Investment Schemes. The notion that AAUs were greened represents the potential to earmark revenue, thus providing a transparent overview of how money is being spent.

It is worth noting that the Greening Investment Scheme is a temporary MBI that coincides with surplus AAU allocation under the first Kyoto commitment period (2008-2012). Although some additional AAUs may be banked and sold beyond 2012, economies in transition are not likely to receive any more AAUs in the context of the international climate negotiations. Hence, the potential to earmark revenue may be short lived.

2.3.3 Emissions Trading and Auctioning

Emissions' trading is typically based on the notion of 'cap and trade' and involves 'limiting total greenhouse gas emissions by defining and distributing allowances for these emissions'. (Hahn, 2009) Capping emissions involves placing legislative emissions reduction requirements on installations covered by the scheme, and in the case of the EU-ETS, penalising these installations for failing to meet the imposed reductions. If emissions from installations exceed a set level, they can either

purchase emissions permits from other installations involved in the market, or pay €100 for each tonne exceeding their designated cap. Credits could be purchased from the international carbon market, or through auctions.

Unlike MBIs imposed at the national level, the EU-ETS requires coordination by a supranational authority (the European Commission) that manages the standards related to emissions reductions, and that maintains a registry of EUA accounts belonging to installations covered under the scheme. Administration of the EU-ETS is based on a number of different pieces of legislation, some of which outline levels of auctioning, and others that outline the required financial tools. The following Directives and Regulations are pertinent to our discussion:

- **Directive 2003/87/EC** was amended based on a proposal issued by the European Parliament Environment Committee in 2008 (COM(2008)16) in 2009. The EU-ETS Directive 2009/29/EC was published in the Official Journal on 5 June 2009, stating that Member States must use 50% of auctioning revenue (or an equivalent amount) to fund a number of different project types, or for contributions to international funds.

- **Regulation (EU) No 1031/2010** sets out the requirements for the timing, administration and other aspects of the auctioning process including the possibility for some countries to participate in a common auctioning platform operated by the Commission, or to operate their own national auctioning platforms. This regulation will require amending to determine the total amount of allowances that will be auctioned in Phase III of the scheme.[5]

The **Monitoring Mechanism Decision (280/2004/EC)** is currently being revised to improve the transparent accounting of flows of climate finance. The legislative proposal outlining proposed amendments, and at the time of writing this report, was awaiting its first reading in the European Parliament (COM(2011)789 final).[6] This legislation could apply to the transparent reporting of earmarked auctioning revenue used to fund adaptation and mitigation efforts in developing countries. With the exception of Germany, Member States have not systematically provided transparent overviews of their expenditure of auctioning revenue. Although Member States may be required to report on the use of auctioning revenue as part of the Monitoring Mechanism Decision, this is still being discussed in the European Parliament. This makes it difficult to determine to what extent Member States are earmarking auctioning revenue, and the extent to which civil society is and will be involved in the allocation and expenditure of revenue. (Hahn, 2009)

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5. See: http://siteresources.worldbank.org/INTCARBONFINANCE/Resources/StateAndTrend_LowRes.pdf, accessed July 2, 2012.

6. See: http://www.europarl.europa.eu/oeil/popups/ficheprocedure.do?lang=en&reference=2011/0372(COD), accessed July 2, 2012.

It is estimated that roughly 68% of all allowances will be auctioned through a common auctioning platform, which is yet to be created.[7] A few countries have opted to establish their own auctioning platforms, and although the EU retains centralised oversight of the scheme, auctioning design may be shaped more by national policy. National policy will have implications for the timing and frequency of bids, the disclosure of purchasing prices, the scope of auction participation and impacts on the secondary EUA market; all factors that can have implications for the amount of revenue raised.[8]

2.4 Overview of MBI Effectiveness

Unlike regulatory approaches, where legislation enforcing technology standards can be equally applied to firms regardless of size and market position, MBIs may offer firms more flexibility in terms of coping with the costs of externalities. (Stavins, 2003) However while MBIs are more flexible, and can serve to generate actual revenue for governments, they cannot substitute for regulatory approaches in cases where institutional capacity is lacking. A number of MBIs are administratively complex, particularly emissions trading, requiring significant government oversight. In addition, underlying macroeconomic factors such as unemployment, inflation, low levels of economic growth and purchasing power may present real implementation barriers both in terms of involving civil society and achieving environmental improvements. For this reason, it is important to consider the effectiveness of MBIs in relation to the corresponding context.

Generally speaking, MBIs will only be effective if they are able to achieve results in the long term, and can be effectively adjusted to reflect changes in inflation, and 'citizens' changing preferences for environmental protection'. (OECD, 2011) It is possible to provide some continuity based on tax escalators, and to predict price levels over time. In Denmark for example, environmental taxation levels are automatically indexed to annual inflation. (OECD, 2011) The ability to predict taxation levels over a longer time frame makes revenue streams more predictable. As far as auctioning under the EU-ETS is concerned, the volatility of the price of carbon may make the predictability of revenue streams more challenging.

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7. The Commission launched a tender to appoint an auctioning platform contractor in March of 2012. http://www.climate-connect.co.uk/Home/?q=node/2065, accessed July 2, 2012.

8. The United Kingdom has received approval from the Financial Services Authority for the implementation of its own auctioning platform. The Department of Energy and Climate Change has approved an initial list of primary participants for auctions, and the scope for participation on behalf of "indirect bidders". Although any firm with an EU-ETs registry account can participate in auctions, installations must participate through a primary participant (a financial institution in this case.) See: http://bit.ly/L4qDhc.

2.5 Earmarking

Earmarking or revenue recycling essentially involves setting aside government revenue for a specific purpose. Revenue can be 'recycled' back in to the national economy in three ways: to substitute for less efficient taxes, to finance government projects 'with high payoffs' and returned to the National Treasury or exchequer to reduce the debt burden. (IEEP, 2006) Typically earmarking has been criticised for its tendency to lock in expenditure priorities, making it difficult to reallocate funding from one policy priority to another. If too much revenue is generated, there is a risk of wastage. If too little is generated over time, it may require contributions from other parts of the central budget. (McCleary, 1989) Under both scenarios, earmarking may also incur an administrative cost. In short, the implementation of effective earmarking practices will need to consider whether revenue streams are predictable and capable of meeting the corresponding financial demands of the designated policies or programmes.

Earmarking in the EU can be undertaken for a number of reasons. In Germany and the Netherlands, the political acceptability of environmental taxation was guaranteed through both reduced corporate taxation and social security contributions. (Andersen, 2010) Typically, the political acceptability of earmarked taxation revenue has been enhanced in cases where there is overlap between those paying the tax and those benefitting from the allocation of revenue. The willingness of individuals to pay taxes increases in cases where they are direct beneficiaries of improved services. (McCleary, 1989) Earmarking is therefore more widely accepted by the public in cases where there is a direct quantifiable financial benefit for taxpayers.

As outlined in section 2.3, roughly 68% of revenue will be generated through the implementation of a common EU auctioning platform. Given this reality, it may however, be much more difficult to establish a correlation between revenue earmarked at the EU level and those benefitting from said revenue. The EU legal requirement to invest earmarked EUA revenue into environmental projects, as opposed to its redistribution to those facing the cost of compliance, could make earmarking less popular with a number of key stakeholders. For this reason, it may be necessary to allocate earmarked EUA revenue to sectors facing high compliance costs, in order to avoid the risks of carbon leakage and to avoid discrediting the EU-ETS as part of broader EU climate change policy. This scenario is particularly likely if the EU moves to a 30% greenhouse gas reduction target by 2020 resulting in a higher carbon cost and thus an increased cost of compliance. (Grubb et al, 2011)

Effective earmarking can be a by-product of effective governance, and the appointment of a specialised government body to both implement earmarked programmes, and to determine how revenue will be allocated beyond short term political time horizons. In cases where governments are constantly changing priorities, particularly in relation to climate change policy, earmarking MBI revenue to meet climate finance needs could help ensure that the fight against climate change is supported in the longer term. Some economists claim that a number of economic efficiencies associated with earmarking can be avoided by declaring earmarked funds 'off-budget'. (Muller, 2008) Earmarking revenue in this way can

also serve to increase the overall transparency of revenue use, thus allowing for civil society engagement. (Wilkinson, 1994)

2.6 Key Issues from this Chapter

There are two key issues raised in this chapter that are fundamental to our analysis. Firstly, revenue from EUA auctioning represents a potential source of climate finance. Secondly, the potential risk associated with the earmarking of EU-ETS auctioning revenue could be minimised if certain design elements are considered. At the same time, given the relatively short lifespan of the EU-ETS, determining best practice for MBI effectiveness, earmarking and the involvement of civil society in Phase III of the Scheme should consider some of the lessons learned from the implementation of a range of other MBIs. The research completed in this Chapter has helped to outline a number of MBI effectiveness factors that will be used to substantiate the lessons learned from the case studies in Chapter 3:

- **Importance of local context and institutional capacity**: MBIs may be more effective in cases where the appropriate institutional capacity is in place.

- **Policy longevity:** MBIs with longer implementation horizons may be more effective.

- **Effective price signals:** The current status of the carbon price and the inability of the EU-ETS to leverage meaningful GHG emissions reductions in Phase II, demonstrates the need for effective price signals.

- **Effective Earmarking:** Earmarking may be more effective in cases where: longer term management of funds is considered; there is a predictable revenue stream capable of financing the programme or policy in question; and the use of earmarked revenue is politically acceptable. In some cases, earmarking is necessary to provide the transparency needed to legitimise implementation of the MBI.

- **Combined MBIs:** The ability of some MBIs to result in environmental improvements may be undermined when combined with other MBIs. For example, taxation policies are less effective when combined with competing subsides.

3 CASE STUDIES

This chapter provides an overview of the eight case studies (representing a range of MBIs across the EU) together with the methodology used to select them.

3.1 Methodology

Following an initial screening of twenty MBIs, eight case studies were completed for taxes and charges in Slovenia, Sweden and Spain for a range of different sectors, and for EUA auctioning in Ireland, Germany and the United Kingdom. The exceptional experience of the Czech Republic with International Emissions Trading and the implementation of a Greening Investment Scheme is described in contrast to the less successful Slovakian experience.

Based on the requirements in the Terms of Reference for this study, an initial list of 20 MBIs was drawn up as implemented in specific Member States (outlined in Annex A); from which 5-10 case studies were extracted. The following selection criteria were used for the initial screening process and for the shortlisting of case studies:

1) The need for regional representation, particularly the possibility to include a case study for southern Europe;
2) The need to include a representative sampling of MBIs;
3) The need to include a balance of EU-ETS and non-EU-ETS related measures; and
4) The need to pay specific attention to the implementation of the Green Savings scheme in the Czech Republic, and to consider the Slovakian experience with International Emissions Trading.

Given these selection criteria, the eight MBIs outlined in Table 3-1 were selected.

Table 3-1 Overview of Case Studies

Country	MBI	Overall Relevance
Spain	Landfill Tax	Demonstrates the effectiveness of environmental taxation policy in a southern Member State.
Slovenia	CO_2 Tax on Energy Products	Demonstrates the barriers to the implementation of environmental taxation in a new Member State.
Slovakia	International Emissions Trading	Demonstrates the barriers to the implementation of international emissions trading in a new Member State.
Czech Republic	International Emissions Trading/ Greening Investment Scheme	Demonstrates the comparative success of International Emissions Trading in a new Member State.
Germany	Utilisation of EUA Revenue	Demonstrates the success of EUA revenue recycling.
United Kingdom	Utilisation of EUA Revenue	Illustrates the potential of earmarking to improve the credibility of the EU-ETS.
Ireland	Utilisation of EUA Revenue	Illustrates the importance of carbon price in auctioning EUAs.
Sweden	NOx Charge	Illustrates the potential for revenue from charges to spur innovation and improve the environment.

The analysis of case studies was undertaken based on the consideration of the following cross-cutting themes and issues, which reflect the three key objectives of this report as outlined in Chapter 1:

1) The revenue generating potential of MBIs;
2) How revenue was allocated and whether earmarking was undertaken;
3) The extent to which civil society has been involved in the implementation of MBIs; and
4) The scope of environmental improvements accomplished through implementation of the MBI.

The results of the case study analysis are grouped by type of MBI in section 3.2.

3.2 Case Studies

3.2.1 The EU-ETS and Auctioning

Auctioning EUAs in Ireland: Phase I and Phase II

The scheme: compliance with legislation and auctioning design

Ireland was one of four EU Member States (together with Denmark, Hungary and Lithuania) to undertake EUA auctioning in the first phase of the EU-ETS (from 2005-2007). Relevant legislation (Directive 2003/87/EC) in force at the time allowed countries to auction 5% of their total allocation as part of a trial phase. (This increased to 10% in the second phase (2008-2012)). Ireland was the first country to auction over one million EUAs as part of two separate auctions, the first held in January 2006 and the second in December 2006. (Fazekas, 2009) Auctions were held on the basis of a sealed bid uniform price auction, with the price remaining undisclosed, and were open both to bidders from installations covered by the EU-ETS and financial speculators. In holding two separate auctions, Ireland was able to spread the risk associated with volatile carbon prices. For the first auction, it had set aside 0.75% of its allocations or 502,201 tonnes of CO_2 equivalent (t CO_2e), but eventually auctioned 1.81% of its total allocation or 1,213,000 t CO_2e given the sudden increase in the market price for carbon (in January 2006, carbon was trading at a record high of €26 per tonne). (Fazekas, 2009) This triggered demand for additional EUAs which were obtained from closed installations and the New Entrants Reserve.

Earmarking and revenue raised

The amount designated for the first auction was used to cover the costs of the scheme. Any additional revenue was given to the exchequer, and was not used to finance environmental projects. Ireland's initial success with auctioning was short-lived, and auctioning was not continued in the second phase of the EU-ETS. Given the rapid fall of the carbon price, from €26 in January 2006 to €9.70 in May 2006 and €0.30 in May 2007, combined with the relatively low volume of EUAs set aside for

auctioning, it is unlikely that enough revenue would have been generated to finance environmental improvements even if earmarking had been undertaken.[9]

Role of / benefit to civil society

No direct involvement of civil society.

Lessons

The Irish example highlights the importance of a robust carbon price in order to generate revenue from auctioning. At the same time, although Ireland's experience is largely considered to be part of a pilot, over allocation of EUAs combined with the recession make it difficult to evaluate the effectiveness of the EU-ETS as a whole. (Environmental Protection Agency Ireland, 2012) With improvements to the design of the ETS in 2013 as a result of improved benchmarking methodologies and increased levels of auctioning, the total amount of revenue raised in Ireland could increase.

Auctioning EUAs in the United Kingdom: Rejection of EUA earmarking

Experience with earmarking

The United Kingdom (UK) has had a significant amount of experience using MBIs as a source of revenue to fund environmental projects. For example, revenue from the Climate Change Levy was previously earmarked to fund initiatives such as the Carbon Trust, and revenue obtained from the landfill tax was used to fund environmental projects and to exempt companies covered by the tax from 0.2% of National Insurance contributions. (Oxfam and WWF, 2008) The UK auctioned 7% of its EUAs in Phase II, and is expected to auction 17MT of CO_2 per year in Phase III (2013-20).

The United Kingdom is second to Germany in terms of potential revenue that could be raised through EUA auctioning. The NGO Carbon Retirement maintains that this revenue could be used in the UK to help vulnerable members of the population cope with fuel poverty, could provide green funds for developing countries, and could help the UK to meet its climate change targets. (Carbon Retirement, 2011) Despite the potential for auctioning revenue to generate as much as £4-6 billion (around €5-7.4 billion) per year in government revenue in the third phase of the scheme, the UK Government remains strongly opposed to earmarking. (Oxfam and WWF, 2008) In a report issued by WWF in 2008, the UK Government issued some strong statements regarding its opposition to earmarking, stating that: '… The UK considers earmarking of specific revenue streams to finance specific expenditure programmes to be an inefficient means of determining public expenditure priorities.' (Oxfam and WWF, 2008) Consultation related to the transposition of EU-ETS legislation in the UK indicated that the UK had no intention of earmarking auctioning revenue for

9. See: http://ecogeneration.com.au/news/carbon_trading_thats_old_news/004331/, accessed July 2, 2012.

environmental projects, but would recycle it to the UK's Consolidated Fund (the exchequer). Auctioning revenue is currently being managed by the UK's Debt Management Office.[10]

Reaction of civil society to rejection of earmarking

The UK position on earmarking has not received unequivocal support from climate experts and NGOs in the UK. Advisory government bodies such as the UK's Climate Change Committee had initially proposed using auctioning revenue from the sale of EUAs allocated to airline operators to fund adaptation measures in developing countries. (Climate Change Committee UK, 2012) Given the existing shortfall in financing required to address climate change, it represents significant revenue source that has the potential to be additional, and self-financing over time. (Muller, 2012)

Lessons: gauging environmental improvements and involvement of civil society

Given the UK's rejection of the earmarking concept in relation to auctioning revenue, it is not possible to determine whether auctioning revenue has helped leverage environmental improvements, and hence whether civil society has contributed to those improvements. Regardless, the UK example indicates the need for a more thorough discussion related to the hypothecation of EUA revenue, and the possibility to have a more interactive dialogue with sectors likely to be impacted by the cost of compliance. Airlines outside the EU, who have resisted inclusion in the EU-ETS, have indicated that they are more likely to comply with the EU-ETS if EUA auctioning revenue is hypothecated.

The American organisation 'Airlines for America' launched a legal challenge in the European Court of Justice regarding the inclusion of emissions from non-EU airlines aviation in the EU-ETS; this was overturned in December 2011.[11] The organisation has stated that auctioning revenue is being used to 'line EU coffers' and not invested into environmental projects, thus portraying the EU-ETS as anti-environmental. Although inclusion of aviation in the EU-ET has been opposed for legal reasons, it is possible that harmonised EU earmarking policies could have helped to downplay the ardent opposition of non-EU airlines to their inclusion in the EU-ETS.[12]

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10. See: http://www.dmo.gov.uk/index.aspx?page=ETS/AuctionInfo, accessed July 2, 2012.

11. European Court of Justice, Press Release, Case C-366/10, 21 December 2011
See: http://curia.europa.eu/jcms/upload/docs/application/pdf/2011-12/cp110139en.pdf, accessed July 2, 2012.

12. See: http://www.airlines.org/Pages/The-European-Union%E2%80%99s-Emissions-Trading-Scheme-A-Violation-of-International-Law.aspx, accessed July 2, 2012.

Auctioning EUAs in Germany: Phase II and III

The scheme

Germany is currently auctioning 40 million EUAs per year. The revenue obtained from auctioning under the current phase of the trading scheme is mainly used to fund the National Climate Protection Initiative (NKI) and the International Climate Protection Initiative (IKI).[13] Since its involvement with auctioning under Phase II of the scheme, Germany decided to auction 100% of all revenue raised through auctioning. (Enting and Reich, publication forthcoming)

Existing and potential revenue

The volumes of EUAs to be auctioned in the third phase of the scheme are expected to increase dramatically. The following amounts of revenue for the first few years of the third phase are envisaged:

Amount of revenue anticipated for Phase III EUA auctioning in Germany:

Year	Amount of revenue foreseen
2012	€780 million
2013	€3,330 million
2014	€3,270 million
2015	€3,220 million

Source: Germanwatch, Nov. 2011

The amount of revenue raised will however depend on the price of carbon. The numbers in the table above are based on a €17/tonne price from 2013 onwards. (Germanwatch, 2011) There is no guarantee that this price will remain. Point Carbon estimates that the price for an EUA forward trade in December 2012 will be as low as €8/tonne.[14] Other analysts claim that without a stronger legislative reduction target, or a binding international agreement, the price of carbon is likely to remain at the current low levels. Should the EU adopt a 30% reduction target, the price of carbon could increase. (Germanwatch, 2011)

Utilisation of revenue

The money raised as part of EUA auctioning in Phase III will go to the 'Special Energy and Climate Fund' created in 2010. In addition to financing national initiatives as

13. Discussion with German government official Dr. Ursula Fuentes Hutfilter, Federal Ministry for the Environment, February, 2012.

14. See: www.pointcarbon.com, accessed April 30, 2012

part of this fund, 15% of remaining revenue will be used to finance international climate initiatives. Revenue will be allocated to the following types of projects (Germanwatch, 2011): 23% for forest protection and biodiversity; 45% for the enhancement of existing climate-related activities; and 32% for a new instrument, the German Climate Technology Initiative (DKTI).

Environmental outcomes

There are numerous environmental outcomes associated with the implementation of the funded programmes and projects as part of the NKI and IKI. Under the NKI, projects designed to stimulate consumer energy efficiency have reduced energy usage by as much as 90%.[15] In turn, increased energy savings lead to an indirect reduction of Germany's greenhouse gas emissions thus contributing to global efforts to mitigate climate change. Investment in the IKI has been used to indirectly fund adaptation measures as part of the Green Carbon Fund, and to fund international forestry initiatives that promote biodiversity.[16]

Role of civil society

There is no evidence to suggest that civil society in Germany has been involved in more strategic decisions regarding revenue spending. It has been more involved in the expenditure of revenue as part of implemented projects. Funds allocated as part of the NKI have been used to raise awareness among the general public in terms of reducing household energy use, and passenger vehicle use. Funding is provided to local authorities to help finance climate protection projects such as efficient street lighting, and to help industry pilot innovative technologies. The notion that improved energy efficiency can help reduce emissions from schools has been integrated in to curriculums where such initiatives are funded. All of these measures have integrated an awareness raising component into the implementation of projects funded by EUA auctioning.[17]

Lessons

The German example reveals the potential for auctioning revenue to achieve environmental outcomes, and the potential role of civil society in so doing. At the same time, it indicates the importance of maintaining a high price of carbon in order to generate revenue. Germany's success in allocating revenue may also be a function of its earmarking practices which are discussed further in Chapter 6.

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15. See: http://www.bmu-klimaschutzinitiative.de/index_en.html, accessed July 2, 2012.

16. See: http://www.bmu-klimaschutzinitiative.de/en/news, accessed July 2, 2012.

17. See: http://www.bmu.de/files/english/pdf/application/pdf/faltblatt_klimaschutz_en_bf.pdf, accessed July 2, 2012.

3.2.2 Taxation

Slovenian CO_2 Tax

Scheme

Slovenia was one of the first countries in the EU to implement a CO_2 tax in 1997. It currently has the second highest level of environmental taxation among the new Member States and is one of five countries where such tax revenues exceeded 3% of GDP in 2009. (IREF, 2011) Abandoning the previously used *ad valorem* tax on energy products, the new tax system brought about an increase in the number of taxable energy products. (IILS, 2010). The tax itself is levied on the use of fuels and incineration of combustible organic matter and was initially set at €5.50 per t CO_2e, then increased in March 1998 to €16 per t CO_2e. (IILS, 2010) Until 2008, facilities covered by this tax could benefit from an exemption by signing voluntary agreements to reduce GHG emissions. However, until 2005 it was possible to get partial tax relief without actually mitigating greenhouse gases. (Kranjcevic, 2007) As a result of new legislation introduced in 2005, for the period 2005-2009, it was possible to obtain a reduction of the tax through the indirect reduction of CO_2 emissions, at a minimum of 2.5% annually with regards to the baseline year of 1990, via contractually defined energy efficiency measures. (Èesen and Kranjc, 2006) In addition, the new legislation also allowed for tax exemptions for energy intensive companies that are included in the EU-ETS and which at the same time obtained permits to emit GHGs. (Èesen and Kranjc, 2006)

Earmarking, utilisation of revenue raised and civil society

Despite some of the inefficiencies associated with the tax, six new Combined Heat and Power units were installed following its introduction, with a total capacity of 17.1 MWe, representing 0.75% of national installed electricity generation capacity and approximately 15% of installed generation capacity in industry (120 MWe). We assume that civil society was indirectly involved in the sense that certain facilities responded to the implementation of the MBI, although given some of the other criticism of the tax, we assume that its involvement has been minimal.

Environmental outcomes

The environmental effect of the CO_2 tax has been rather limited, given that it is in fact a relabelled tax on mineral oils not intended to incentivise a reduction in fuel demand. (Andersen, 2010) The inability of the tax to reduce fuel demand can also be explained partly by Slovenia's access to nuclear and hydropower, and by the combination of the tax with numerous exemptions and subsidies. (Andersen, 2010)

Lessons

The lack of data transparency associated with economies in transition has made it difficult to evaluate the effectiveness of the CO_2 tax on an *ex post* basis. (Andersen, 2010) More importantly, the effectiveness of taxation policy is diminished when combined with other MBIs such as subsidies, even despite the modest implementation of clean technologies.

Spanish Landfill Tax

The scheme

The Spanish Government passed a law in 2003 (16/2003) outlining a policy to fund waste disposal practices utilising revenue from the collection of a waste tax. The tax is intended to divert waste from landfills, encourage recycling and the separation of the bio-waste part of total household waste. The tax is imposed on local authorities at landfill sites (the information reviewed here is based on its implementation in Catalonia). Since its inception, the rate of taxation has increased from €10 to €20 per tonne of waste in 2011. (Ventosa, publication forthcoming) An amendment to the original law at that time also created two new additional taxes: €5 per tonne for waste that is separated out from household waste-streams and incinerated, and €15 per tonne for waste that has been incinerated but not separated out as part of initial waste collection efforts. (Ventosa, publication forthcoming)

Earmarking and utilisation of revenue

There are two separate revenue streams associated with the tax. Revenue from the general tax on waste separate and collection was €23 million in 2010, and revenue from the incineration tax was €3.4 million in 2010. (Ventosa, publication forthcoming) The revenue generated by these taxes has been allocated to a special fund. Fifty per cent of the revenue will be 'devoted to the treatment of organic waste, including treatments that reduce the quantity or improve the quality of waste for disposal, especially regarding the reduction of the organic fraction contained in the residual fraction.' (Ventosa, publication forthcoming.) The remaining revenue should be used to promote waste separation, collection, recycling, and processes that promote material recovery.

As waste management methods improve, it is possible that the revenue may decrease. For this reason, it will be necessary to increase the rate of taxation over time.

Involvement of civil society and lessons learned

The tax is recycled back to local authorities. A distribution of the benefits of the tax rebate broken down by waste management practice, indicates that individual households that separate waste have benefited. Although there has been no direct involvement of civil society per se, the imposition of the MBI has influenced individual household waste management behaviour.

3.2.3 International Emissions Trading/Greening Investment Scheme

International Emissions Trading: Selling Surplus AAUs in Slovakia

Scheme and revenue potential

Slovakia has had a surplus of around 50 million AAUs due to economic restructuring in the 1990s. (Tuerk et al, 2010) As of 2011, around one third of the AUUs had been sold by the Slovakian Government and the remaining 27 million AAUs will be up for sale in 2012. (Tuerk et al, 2010) Based on the information presented below, roughly €75 million has been raised based on a carbon price of €5 per tonne. (Tuerk et al, 2010)

Uncertainty pertaining to the ownership of AAUs in Slovakia eventually led to the resignation of two consecutive ministers of the environment (Tuerk et al, 2010). In November 2008, Slovakia signed a deal with US-registered company Interblue to sell 35 million AAUs. (Tuerk et al, 2010) However, the transaction turned out to be a dubious one – the transaction price was low (€5 against a market average of €10), and there were a number of questions regarding both the contractual arrangements between the buyer and the seller, and the legal status of the purchasing company. (Tuerk et al, 2010) Nevertheless, despite the issues this particular trade raised with respect to the transparency of the Slovakian process, the transfer of 15 million AAUs was made. (Tuerk et al, 2010) Although, there was no transparent accounting of the sale; analysts assume that the AAUs were in fact sold to Japan (Point Carbon, 2009).

Earmarking

Although a Greening Investment Scheme was established in 2009, and was subsequently revised, its implementation was delayed (Tuerk et al., 2010). The lack of a transparent policy outlining the terms of transactions initially created an uncertain policy environment increasing the risk of non-delivery of AAUs for potential buyers. A new Greening Investment Scheme is currently being set up and the Government has tried to provide more transparency around the sale of AAUs. A Czech consultancy Carbon Redux has been selected to help Slovakia sell its remaining 27 million AAUs based on a more transparent process. (Tuerk et al, 2010)

Role of civil society

There was no obvious involvement of civil society in the implementation of this scheme.

Lessons learned

The absence of a transparent emissions trading policy makes it difficult to determine whether the MBI resulted in any environmental improvements. Indeed, the absence of a Greening Investment Scheme in Slovakia, which would typically guarantee this type of transparency, has in fact affected Slovakia's reputation as a reliable seller of AAUs. (Tuerk et al, 2010)

International Emissions Trading: Czech Greening Investment Scheme

The scheme and revenue raised

The Czech GIS programme represents an example of the successful utilisation of earmarked revenue. The scheme, which provides funding for a range of energy efficiency measures, is expected to provide at least 21 billion Czech crowns (€870 million) from AAU sales made over the 2009-2011 period. As of 2012, around 75 million AAUs have been sold to different parties, with the majority of allowances sold to Japan, but also to the World Bank, Austria and Spain (GIS report, 2010), representing a revenue stream of €960 million (Valentova, 2009). The actual sale of AAUs is negotiated by the Ministry of Environment, while decisions regarding allocation of the revenues raised are taken by the State Environmental Fund.

Earmarking and utilisation of revenue

Three types of projects are eligible to receive revenue: energy savings in space heating (insulation); construction utilising a passive energy standard; and the use of renewable energy sources for heating and hot water supply. The beneficiaries include owners of family houses and apartment buildings, i.e. natural persons, associations of owners, housing cooperatives, municipalities and business (Turk et al., 2010 and Valentova, 2009). An information campaign promoting energy efficient appliances has accompanied the implementation of any projects funded through the Green Savings programme.

Environmental outcomes and other benefits

The key environmental improvements associated with the programme relate to the mitigation of greenhouse gas emissions, representing a contribution to the global effort to mitigate climate change. Reducing energy inputs has had positive co-benefits in terms of improving local air quality. Other initiatives more indirectly related to the reduction of greenhouse gas emissions include the increased use of renewable energy systems and energy savings in the residential heating sector. Other more general benefits associated with the implementation of the programme include the household cost savings associated with energy efficiency, improved housing conditions, and the creation of up to 20,000 jobs. (GIS report, 2010) Projects were registered by 200,000 households who used the subsidy to fund thermal insulation of family houses, apartment buildings (panel + nonpanel technology), new construction meeting the passive energy standard, and renewable energy systems for heating and hot water preparation including low-emission biomass-fired sources, heat pumps and solar energy.

Role of civil society

Civil society has been heavily involved in the Czech GIS. The programme is intended to benefit the broader public, providing them with both the capital required to undertake the necessary environmental improvements and with a greater appreciation of the potential for MBI revenue (particularly that related to the carbon market) to enhance environmental outcomes.

Lessons

The quality and effectiveness of the Czech programme is largely attributed to the transparency of the revenue recycling programme.[18] It has served as a useful building block for the establishment of a revenue recycling programme for EUA revenue. Discussion is currently underway in the Czech Republic with regards to how the auctioning of EUAs will be conducted and how the potential revenues will be spent. On 26 January 2012, roundtable discussions were held with stakeholders (industry, not-for-profit organisations and representative associations of homeowners) at the Ministry of Environment about the use of auctioning revenues to be obtained from the third phase of the EU-ETS. In a subsequent press conference Environment Minister Tomas Chalupa stated that the majority of the revenue should be invested in energy savings measures, but that the rest would be allocated to other priorities, including support for innovation.[19] Czech officials have indicated that auctioning revenue should also be used to support the continuation of the Green Savings programme, which unlike the GIS-based programme could be used to support energy efficiency in public buildings. However, unlike the GIS initiative where the volume of AAUs was determined *ex ante*, the ability of auctioning to raise substantial amounts of revenue will depend on the price of carbon and the design of the auctioning scheme.

3.2.4 Charge(s)

Swedish NOx Charge

The scheme

In 1990, the Swedish Government introduced a NOx charge on large combustion plants requiring them to pay 40 SEK (approximately €4.5) per kg of NOx. (Hoglund-Isaksson and Sterner, 2011) All plants are required to pay per kg of NOx emitted, but are refunded on the basis of 'the fraction of useful energy' produced by all plants covered by the legislation. The actual level of the charge remained at 40 SEK until

18. Correspondence with Petr Stepanek, employee of CarbonRedux, April, 2012.

19. Confidential conversation with Czech official from the Ministry for the Environment, February, 2012.

2007, when it was increased to 50 SEK (approximately €5.7) to account for charge depreciation. (Hoglund-Isaksson and Sterner, 2011)

Earmarking and revenue raised

There is no earmarking *per se*. Funds raised through the scheme are recycled back to a pool of emitters, with 1% held by the central government to pay for the administration of the MBI itself. (Hoglund-Isaksson and Sterner, 2011) Those emitting less receive a greater subsidy which can be used to implement and fund NOx mitigation technologies.

Environmental outcomes

The emissions intensity of plants covered by the scheme fell by 50% from 1992-2007, resulting in a corresponding decrease in the release of NOx per unit of energy. (Hoglund-Isaksson and Sterner, 2011) The effectiveness of the charge is largely attributed to the mitigation target. A similar scheme implemented in France failed given that the charge was too low.

Role of civil society

There is no indication that the Government has sought to consult with the public in administering the charge. Given the response of those participating in the scheme, we assume that the programme has been successful in more indirectly involving civil society.

Lessons

The charge is considered to work better than a standard tax. Firms are directly compensated for their mitigation efforts, thus encouraging them to participate in the programme. In turn, the programme has been supported by industry, which has reinforced its general political credibility.

3.3 Key Lessons Learned from the Case Studies

The following effectiveness factors were outlined in Chapter 2: local context and institutional capacity; policy longevity; effective price signals; effective earmarking; and combined MBIs. The case studies help to further underline the importance of these factors while offering new perspectives. The German and Czech case studies indicate the benefit of implementing transparent earmarking practices that involve civil society at early stages of the revenue recycling process. Other key lessons from the case studies are outlined briefly below:

- **Irish case study:** Illustrates the importance of ***effective price signals*** and maintaining a high price of carbon in order to generate revenue.

- **UK case study:** Illustrates the potential of ***effective earmarking*** in order to obtain political buy-in from those impacted by the expanded scope of the EU-ETS.

- **German case study:** Reveals the potential for auctioning revenue to achieve environmental outcomes, and the potential role of ***civil society*** in so doing as part of ***effective earmarking***. At the same time, it indicates the importance of ***effective price signals*** and maintaining a high price of carbon in order to generate revenue.

- **Slovenian case study:** The ***lack of data transparency*** associated with economies in transition has made it difficult to evaluate the effectiveness of the CO_2 tax on an *ex post* basis. More importantly, the effectiveness of taxation policy is diminished when ***combined with other MBIs*** such as subsidies.

- **Slovakian case study:** The absence of a ***transparent*** emissions trading policy makes it difficult to determine whether the MBI resulted in any environmental improvements. Indeed, the absence of a Greening Investment Scheme in Slovakia, which would typically guarantee this type of transparency, has in fact affected Slovakia's reputation as a reliable seller of AAUs. The Slovakian case study illustrates how ***effective earmarking*** through the implementation of a Greening Investment Scheme could have helped safeguard its reputation as an AAU seller.

- **Czech case study:** Illustrates the importance of involving ***civil society***, and the ***transparent*** presentation/management of AAU revenue. It demonstrates that there are two distinct phases that offered opportunities for the involvement of civil society: at the strategic phase where decisions are made to allocate revenue to specific projects, policies and programmes, and the actual expenditure of revenue as part of implemented projects and programmes. The Czech example illustrates the potential of ***effective earmarking*** as part of a Greening Investment Scheme.

- **Swedish case study:** Illustrates the importance of penalising those that do not comply with the polluter pays principle. It illustrates the importance of ***effective price signals***. The fact that the MBI has been in place for 30 years illustrates the importance of ***policy longevity***.

- **Spanish case study:** Demonstrates the importance of ***effective price signals*** in improved household waste management performance. Increased incineration rates however are attributed to poor ***local infrastructure***.

4 COMPARISON OF CASE STUDIES

This chapter synthesises the research completed in Chapters 2 and 3. The effectiveness of MBIs and earmarking are compared, referring to the lessons learned from the case studies.

4.1 MBI Effectiveness

Table 4-1 provides an overview of case study results, referring to the MBI effectiveness factors outlined in Chapter 2. It demonstrates the fact that it is difficult to determine the extent to which MBIs have resulted in environmental improvements given the absence of transparent data reporting. Despite this knowledge gap, MBIs still have the potential to generate revenue.

Table 4-1 Revenue Generating Potential of MBIs and Environmental Improvements

Country	MBI Objective	Extent of Environmental Improvement	Amount of Revenue Raised	Reasons for Success	Reasons for Failure
Spain	Landfill Tax and Waste Fund to encourage waste prevention and reduce waste disposal. MBI in part a response to the Waste Framework Directive.	Improvement of waste management practices by households.	€190 million from 2004-2010	Ability to implement **effective price signals** as part of tax resulted in change of household waste management behaviour.	
Ireland	Pilot EUA auction under Phase II of the scheme; Compliance with EU-ETS Directives – see section 2.2.3.	Not possible to determine	Approx. €26 million for one auction in 2006.		Pilot trade; no legally enforced data reporting requirement.
Slovakia	Sale of surplus AAUs under International Emissions Trading. Participation in IET outlined in Article 17 of the Kyoto Protocol.	Not possible to determine	€75 million for one trade in 2008.		No legally enforced data reporting requirement.
UK	EUA Auctioning in Phase II. Compliance with EU-ETS Directives – see section 2.2.3.	Not possible to determine	Potential to generate £4-6 billion (around €5-7.4 billion) per year.		Pilot trade, no legally enforced data reporting requirement. Rejection of earmarking.
Slovenia	National CO_2 Tax on Energy Products: to reduce GHG emissions and use revenue to fund low carbon technologies. Not implemented in response to EU legislation.	No discernible reduction of GHGs or demand in fuel usage.	-0.3% of GDP (based on data published in 2011). Loss of revenue.		Effectiveness undermined by **tax exemptions**. Difficult to complete *ex post* evaluation of impact given **lack of data transparency** in transitional economies.
Czech Republic	International Emissions Trading/Greening Investment Scheme. Participation in IET outlined in Article 17 of the Kyoto Protocol.	Reduced greenhouse gas emissions by 25 KT in first year of implementation.	€960 million in 2010	**Involvement of civil society** in the allocation and expenditure of revenue. Implementation of a **transparent earmarking** process.	

Country	MBI Objective	Extent of Environmental Improvement	Amount of Revenue Raised	Reasons for Success	Reasons for Failure
Germany	Utilisation of EUA Revenue. Compliance with EU-ETS Directives – see section 2.2.3.	Potential for one project to reduce up to 20 MT of CO_2 per annum	In 2012, it is estimated that €780 million will be raised through auctioning.	**Involvement of civil society** in the expenditure of revenue. Implementation of a **transparent earmarking** process.	
Sweden	Mitigation of Nitrogen Oxides (NOx). MBI implemented in response to Large Plant Combustion Directive 2001/80/EC.	NOx emissions rate fell by 50% from 1992-2007	It is not aimed at generating revenue; charges collected are refunded to those mitigating NOx.	**Effective allocation of revenue and price signals.** Revenue benefits those complying with scheme.	

As table 4-1 demonstrates, MBIs implemented in response to EU legislation have the potential to contribute to environmental improvements; determining this effectiveness is facilitated in some cases by the mandatory data reporting requirements. Given that the Slovenian and Slovakian MBIs were not implemented in response to EU legislation, environmental improvements were not clearly documented at the state level. Data has also typically been less transparent for economies in transition such as Slovenia, the Czech Republic and Slovakia (Andersen, 2010). Earmarking revenue in the Czech case, thereby improving the transparency of data, served to overcome this challenge.

The implementation of MBIs in Slovakia, the UK and Ireland indicates that MBIs can raise revenue without benefitting the environment. However, the lack of data transparency makes it difficult to determine whether revenue has been raised with the intention of improving the environment. In the case of the UK, it is perhaps too early to comment on the lack of data transparency, given the delay in implementing the Monitoring Mechanism Decision. (See section 2.3.3) Regardless, given their decision to recycle revenue back in to the general budget, it will be difficult to determine how money is being spent.

4.2 Earmarking and Data Transparency

Referring to the results outlined in Table 4-1, the effectiveness of a number of MBIs has been a result of effective earmarking practices which vary based on Member State budgetary practices. In Germany, proposed earmarking as part of the 'Special Energy and Climate Fund' under Phase III of the scheme is a reflection of standard German budgetary principles. (More detail on the German example is provided in section 6.2.) As outlined in section 2.3, effective earmarking can also be supported by the right type of governance. The following four MBIs have been able to effectively allocate revenue to environmental improvements based on sound earmarking practices:

Table 4-2 Overview of Earmarking Success Stories

Country	MBI	Status of Earmarking and Revenue Recycling	Reasons for Success
Spain	Landfill Tax	Utilisation of revenue from the landfill tax to improve waste disposal techniques and waste management practices.	Adequate fund management as outlined in legislation.
Czech Republic	International Emissions Trading/ Greening Investment Scheme	Successful earmarking of revenue earned from the sale of AAUs as part of a Greening Investment Scheme. The revenue was used to fund a number of different project types with a focus on household energy efficiency.	Political commitment and the creation of a governance structure for the management of funds.
Germany	Utilisation of EUA Revenue	Successful earmarking of revenue earned through the sale of EUAs. Revenue has been used to fund household and community level energy efficiency, and future revenue will be used to fund other environmental priorities including biodiversity and conservation.	Political commitment and the creation of a governance structure for the management of funds.
Sweden	NOx Charge	1% of funds used to cover costs of the scheme; revenue obtained from non-compliant facilities recycled back to those installing NOx mitigation technologies.	Political acceptability of revenue recycling is achieved. Revenue benefits those complying with the scheme.

Enhancing the role of civil society as part of the earmarking process will be a reflection of the timing of its involvement at the revenue allocation and expenditure phases. This is discussed further in Chapter 5. Table 4-3 provides initial insight in to the involvement of civil society in the implementation of MBIs.

4.3 Summary

If one considers a comparison of the results in sections 4.1 and 4.2, a number of interesting conclusions can be drawn. Environmental improvements tend to be easier to demonstrate in cases where Member States have complied with EU legislation, and in cases where earmarking has been undertaken.

Table 4-3 Comparison of Environmental Improvements and Earmarking

Country	MBI	Status of Earmarking and Revenue Use	Environmental Improvement and Civil Society	Factor for Success/Failure
Taxation				
Spain	Landfill Tax	Utilisation of revenue from the landfill tax to improve waste disposal techniques and waste management practices.	Improved household waste management practices. Positive response to price signals and resulting behaviour change. Demonstrates trust in government policy. Civil society represented through government.	Effective price signal; effective allocation of revenue. Adequate management of earmarked funds through legislation.
Slovenia	CO_2 Tax on Energy Products	Revenue used to fund the implementation of combined heat and power facilities.	Limited uptake of clean technologies. No known impact on greenhouse gas reductions or improved energy efficiency. Limited involvement of civil society.	Poor combination of taxation and subsidies. Lack of long term commitment to the use of funds.
International Emissions Trading/Greening Investment Schemes				
Slovakia	International Emissions Trading	No earmarking undertaken.	No significant environmental improvements given that the revenue obtained from the sale of surplus AAUs was only used to meet Kyoto compliance targets.	Lack of transparency of revenue use.
Czech Republic	International Emissions Trading/Greening Investment Scheme	Successful earmarking of revenue earned from the sale of AAUs as part of a Greening Investment Scheme.	The revenue was used to fund a number of different project types with a focus on household energy efficiency. Involvement of civil society in revenue allocation and project implementation.	Transparency of revenue use; deliberate integration of civil society into programme, creation of fund management structure for earmarking.
EU-ETS and Auctioning Revenue				
Germany	Utilisation of EUA Revenue	Successful earmarking of revenue earned through the sale of EUAs.	Revenue has been used to fund household and community level energy efficiency. Involvement of civil society in revenue expenditure.	Political commitment to earmarking, to the domestic and international use of revenue, to energy efficiency, local engagement and renewable energy technologies.
United Kingdom	Utilisation of EUA Revenue	No earmarking was undertaken.	The implementation of the MBI will have resulted in greenhouse gas reductions equivalent to the total sale of EUAs, but this is separate from the use of revenue raised.	Lack of transparency for revenue use.
Ireland	Utilisation of EUA Revenue	Proceeds from EUA sales used to cover the cost of the scheme.	Similar to the UK, the volume of tonnes auctioned would represent an equivalent amount of greenhouse gas reductions.	Pilot trade; not intended to achieve significant environmental improvements.
Charge(s)				
Sweden	NOx Charge	Proceeds from the charge (1%) used to cover the cost the scheme.	NOx emission rate decreased by 50% from 1992-2007. Trust in government policy; positive response to price signals and resulting behaviour change.	Appropriate price signals and effective governance. Civil society represented through government.

5 MBI EFFECTIVENESS AND THE ROLE OF CIVIL SOCIETY

This chapter provides a definition of civil society, and a description of its involvement in the MBIs reviewed as part of the case study research. It considers how the national transposition of key EU Directives related to civil society shapes national public engagement practices. Our review of existing practices considers legislation related to public consultation, and research undertaken by authoritative organisations such as the OECD. This review indicates that with respect to the implementation of MBIs, the involvement of civil society can manifest itself in many ways. It can involve: direct consultation between governments and any non-state actor; can be reflected through the transparent presentation of information; and through its representation in government. With respect to the earmarking process, civil society can be involved in decisions related to the allocation of funding to specific projects, programmes or policy priorities, or in its actual expenditure at the programme implementation stage.

The consideration of the scope for the involvement of civil society will culminate in the suggestion of best practice in the concluding chapter, with particular consideration given to the timing of civil society involvement in the earmarking process.

5.1 Introduction to Civil Society and the Development of Good Practices

As defined by the EESC, 'civil society is a collective term for all types of social action, by individuals or groups that do not emanate from the state and are not run by it.' (Smismans, 2003) The EESC definition of civil society thus includes the following types of non-state actors: social partners, organisations representing social and economic players that are 'not social partners in the strict sense of the term'; NGOs that bring people together for a common cause such as the environment; community based NGOs; and grassroots and religious communities. (Smismans, 2003) The standard EESC claim is that the involvement of civil society legitimises democracy, representative government and participatory government. Ideally, national law and public policy should accommodate these principles.[20] Recommendations for best practice must consider the importance of legislation and effective governance, and the notion that in these cases, civil society is 'representative'. (Smismans, 2003)

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[20]. The EESC was originally created by the Treaty of Rome. Its far reaching mandate was further defined as part of the Nice Treaty as an organisation that should enhance civil dialogue *between* civil society organisations. An amendment to the Treaty stated that the EESC should 'consist of representatives of the various economic and social components of *organised civil society*.' (Smismans, 2003) However, as stated in Chapter 1, despite an attempt to institutionalise civil society, it remains poorly organised. (Smismans, 2003)

Civil society has become increasingly integrated in to policy development in the EU over the past couple of decades. Work completed by the OECD indicates that the majority of its member countries only began to comply with civil society standards as recently as 2000. (OECD, 2001) (By 2000 80% of OECD countries had enacted the appropriate legislation to facilitate public access to information. (OECD, 2001)) Given this reality, there is a justifiable need to 'organise civil society'. (Smismans, 2003) Perhaps more importantly, the involvement of the public may be necessary to maintain the long term viability and general credibility of MBIs aimed at funding environmental improvements. (OECD, 2011)

The involvement of civil society in MBIs should consider three key factors: direct consultation, guaranteeing access to information, and the more indirect representation of civil society in government. Effective consultation will be largely a question of timing, with the potential to maximise the involvement of civil society at earlier stages of the policy cycle. (2001, OECD) At the same time, the local political and economic context should be taken into account when determining the extent to which each of these three factors should be integrated in to the implementation of effective MBIs. Positive responses to price signals for example could reflect existing trust in government, thus requiring little additional consideration of civil society. In these cases, underlying democratic principles could be a reflection of the national transposition of EU legislation and endemic political culture. (OECD, 2001)

5.2 Role of Legislation in Shaping Civil Society at the Member State Level

National interpretation of legislation is instrumental to the creation of civil society, illustrating how Member States can choose to engage with the public at their discretion. Here we describe national interpretation of four key pieces of legislation based on recent infringement proceedings presented in the European Court of Justice for the countries reviewed as part of the case studies.

These key pieces of legislation are listed in order of their enactment:

1) Directive 2003/35/EC related to Environmental Impact Assessment. This provides for public participation in respect of the drawing up of certain plans and programmes relating to the environment, and amends Council Directives with regard to public participation and access to justice. This is also addressed in the Strategic Environmental Assessment Directive, 2001/42/EC.

2) The Convention on Access to Information, Public Participation and Access to Justice in Environmental Matters, commonly referred to as the Aarhus Convention;

3) Directive 2003/4/EC on public access to environmental information and repealing Council Directive 90/313/EEC; and

4) Environmental Liability Directive 2004/35/EC; which makes provisions for public participation.

The information provided in table 5-1 indicates that the majority of infringement proceedings relate to the late transposition of Directives, clarification of scope, and misinterpretation of legal language. Consideration of these infringements does not suggest that these countries are undemocratic. They provide initial insight in to how extensively governments engage with civil society.

Table 5-1 Civil Society Governance and Compliance with Relevant Legislation

Country	MBI	Involvement of Civil Society	Infringement Proceedings
Slovakia	International Emissions Trading	Not evident; attributed to lack of a Greening Investment Scheme	No relevant infringement proceedings.
Czech Republic	International Emissions Trading/Greening Investment Scheme (GIS)	Significant involvement; other benefits such as job creation	2010: failure to comply with EIA Directive; 2010: Late transposition of 2003/4/EC.
Germany	Utilisation of EUA Revenue	Significant involvement	1999: Misinterpretation of 2003/4/EC; 2011: Clarification of scope of 2003/4/EC.
United Kingdom	Utilisation of EUA Revenue	Not evident/no earmarking	2010: Late transposition of 2003/4/EC.
Ireland	Utilisation of EUA Revenue	Not evident/pilot project	2007: Late transposition of 2003/4/EC; 2010: Misinterpretation of 'public concerned' in EIA Directive; 2011: Failure to fully transpose EIA Directive; 2011: Failure to fully transpose 2003/4/EC.
Spain	Landfill Tax and Waste Fund	Indirect involvement	No relevant infringement proceedings.
Slovenia	CO_2 Tax on Energy Products	Indirect involvement	No relevant infringement proceedings.
Sweden	Mitigation of Nitrogen Oxides (NOx)	Indirect involvement	2011: Clarification of scope of 2003/4/EC.

As demonstrated by the Irish case, a number of concepts outlined in the EIA Directive for example can be interpreted differently, and can affect the scope of civil society. This applies specifically to the terms 'public' versus 'public concerned'; and the timing of consultation exercises. (COWI, 2009) The Member State definition of 'public' versus 'public concerned' can have implications for the scope of local citizens' and interest groups' involvement in consultation, given that the term 'public concerned' implies limited participation. The interpretation of the term 'public' in some cases has resulted in extremely broad consultation for some Member States including Finland, France, Ireland and Poland, meaning that 'everyone is allowed to participate'. (COWI, 2009) In short, more extensive involvement of civil society throughout the earmarking process should consider the extent to which Member

States have typically consulted with non-state actors.

5.3 Civil Society and Stages of the Earmarking Process

In outlining best practice for the involvement of civil society, the OECD maintains that its contribution is maximised when involved at earlier stages of the policy cycle. (OECD, 2001) Nevertheless, based on the case studies completed for this report, there is a greater amount of evidence available to demonstrate the involvement of civil society at the later stages of the earmarking process when revenue is spent as part of implemented projects. There is less evidence available to demonstrate the involvement of civil society in decisions related to the selection of budgetary priorities. There is some recognition on the part of the UK Treasury, for example, that greater consultation with the public regarding the selection of spending priorities could improve budgetary effectiveness, despite the fact that most significant official consultation currently remains restricted to inner policy circles.[21] At the same time, too much consultation can be disruptive and has the potential to undermine policy.

The involvement of civil society in the case studies is described based on the nature of consultation, transparency and representation in government. This is outlined in table 5-2 below.

21. See: http://www.publications.parliament.uk/pa/cm201011/cmselect/cmtreasy/544/54405.htm, accessed July 2, 2012.

Table 5-2 Involvement of Civil Society

Country	MBI and Objective	Scope of Involvement of Civil Society	Timing of Involvement	Enhancement of Environmental Outcomes
Spain	Landfill Tax and Waste Fund: to encourage waste prevention.	Basic requirement met. Implementation of MBI transparent given legislative reporting requirements, but no direct consultation with civil society by government.	Revenue redistributed to households by local authorities. No involvement of civil society in allocation of revenue.	Response to taxation policy resulted in improved rates of recycling. Demonstrates confidence in policy.
Slovenia	CO_2 Tax on Energy Products: to reduce GHGs and use revenue to fund low carbon technologies	Limited access to information regarding the implementation of the MBI – data not publicly reported. No direct consultation between government and civil society.	Project developers obtain exemptions from tax based on applications to central government. No involvement of civil society in allocation of revenue.	Not applicable
Slovakia	International Emissions Trading	No access to information regarding the MBI, and no known consultation with civil society.	Not applicable	Not applicable
Czech Republic	International Emissions Trading/Greening Investment Scheme	Information available regarding the MBI through a programme report; civil society actively engaged.	Involved in expenditure of revenue. Civil society interests represented in key decision making bodies that allocate revenue to projects, policies and programmes.	Reduction of greenhouse gases and improved energy efficiency.
Germany	Utilisation of EUA Revenue	Direct involvement in implementation of projects funded by auctioning revenue	Directly involved in expenditure of revenue, but not in spending decisions.	Reduction of greenhouse gases and improved energy efficiency.
United Kingdom	Utilisation of EUA Revenue	No access to information regarding the MBI, and no known consultation with civil society.	Revenue not earmarked or recycled; allocated to exchequer.	Not applicable.
Ireland	Utilisation of EUA Revenue; revenue for cost recovery	No access to information regarding the MBI, and no known consultation with civil society.	Revenue used only to cover the cost of the programme; remainder returned to exchequer	Not applicable.
Sweden	Mitigation of Nitrogen Oxides (NOx)	Basic requirement met. Implementation of MBI transparent given legislative reporting requirements, but no direct consultation with civil society by government.	Firms covered by scheme involved in allocation and expenditure of revenue.	Response to tax resulted in reduced emission rate of NOx. Demonstrates confidence in policy.

5.4 Involving Civil Society in MBIs: Ingredients for Success

Based on research completed by the OECD, the degree to which Member States engage with civil society can be gauged based on their adherence to the following criteria: through access to information; standard consultation with the public; and active engagement with the public. (OECD, 2001) The case studies indicate that most countries meet the first criterion, but not the second and third. In some cases, the MBI in question may not allow for frequent consultation in cases where the general public is not likely to benefit from the subsequent use of revenue. Consultation may also be unnecessary in cases where there is a strong underlying trust in government, and there is adequate representation of civil society in governing bodies. The success of the Swedish NOx charge for example, and a willingness of firms to pay for the installation of mitigation technologies, illustrates a certain underlying trust in public policy. (IFC, 2012)

Recommendations for best practice for the involvement of civil society should consider the timing and frequency of consultation, and the need to balance consultation against the political sensitivity of the issues in question. In this way, it will be crucial to gain an appreciation for how civil society has developed at the national level, and whether the government in question has actively engaged with civil society in the past. Compliance with underlying legislation will provide some indication of these practices. Without balanced participation of civil society, the longevity of MBIs could be compromised.

6 CONCLUSIONS AND RECOMMENDATIONS FOR BEST PRACTICE

In this Chapter we provide a summary of report findings, while providing recommendations for best practice in relation to the implementation of effective MBIs, transparent earmarking, and the involvement of civil society. Here we note that it is difficult to recommend 'best practice' given the shortage of examples. For this reason, we use the term 'good practice' in providing suitable recommendations.

6.1 Overview of MBI Effectiveness and Recommendations for 'Good Practice'

There are a number of MBIs that have been implemented throughout the EU to improve the environment. The relative effectiveness of these MBIs can be a reflection of adequate compliance with the relevant legislation. In other cases, demonstrating that environmental improvements have occurred can be facilitated through the implementation of effective and transparent earmarking. Regardless, there are a number of other factors that affect the ability to raise the revenue needed to fund environmental improvements in the first instance.

The description of MBI effectiveness in Chapters 2-4 outlines factors that could be used to encourage 'good practice' in terms of leveraging environmental improvements. A number of these factors could apply to the implementation of MBIs where revenue is not earmarked as part of a separate fund. This is true in the Swedish case where the rate of NOx emissions is reduced, and revenue is distributed to those mitigating NOx. The success of the Swedish MBI is based on an ***effective price signal***, and ***policy longevity*** given its thirty year lifespan. The inability of the Slovenian CO_2 tax to leverage environmental improvements was attributed to its ***combination with a number of tax exemptions*** (or subsidies) that undermined the effectiveness of the tax.

Indeed, our case study research indicates that all MBIs have the ability to generate revenue. The implementation of International Emissions Trading in Slovakia indicates that one sale of AAUs was capable of generating €76 million in revenue. However, the failure to provide transparent accounting of revenue usage makes it impossible to determine whether environmental improvements have occurred. The Slovakian case illustrates how ***effective earmarking*** through the implementation of a Greening Investment Scheme could have enhanced its reputation as a potential source of AAUs that generates 'real' emissions reductions.

6.2 Effectiveness of MBIs and Earmarking

As the case studies indicate, the ability of MBIs to leverage environmental improvements was more pronounced in cases where earmarking was undertaken. In the Czech and German cases, the presentation of budgetary practices was transparent, allowing for a more robust involvement of civil society. We argue that given the lack of guidance regarding the operationalisation of earmarking of EUA

revenue throughout the EU in Phase III of the EU-ETS, the German case is a useful example of earmarking 'good practice', particularly given the decision to earmark 100% of revenue from auctions under all phases of the scheme.

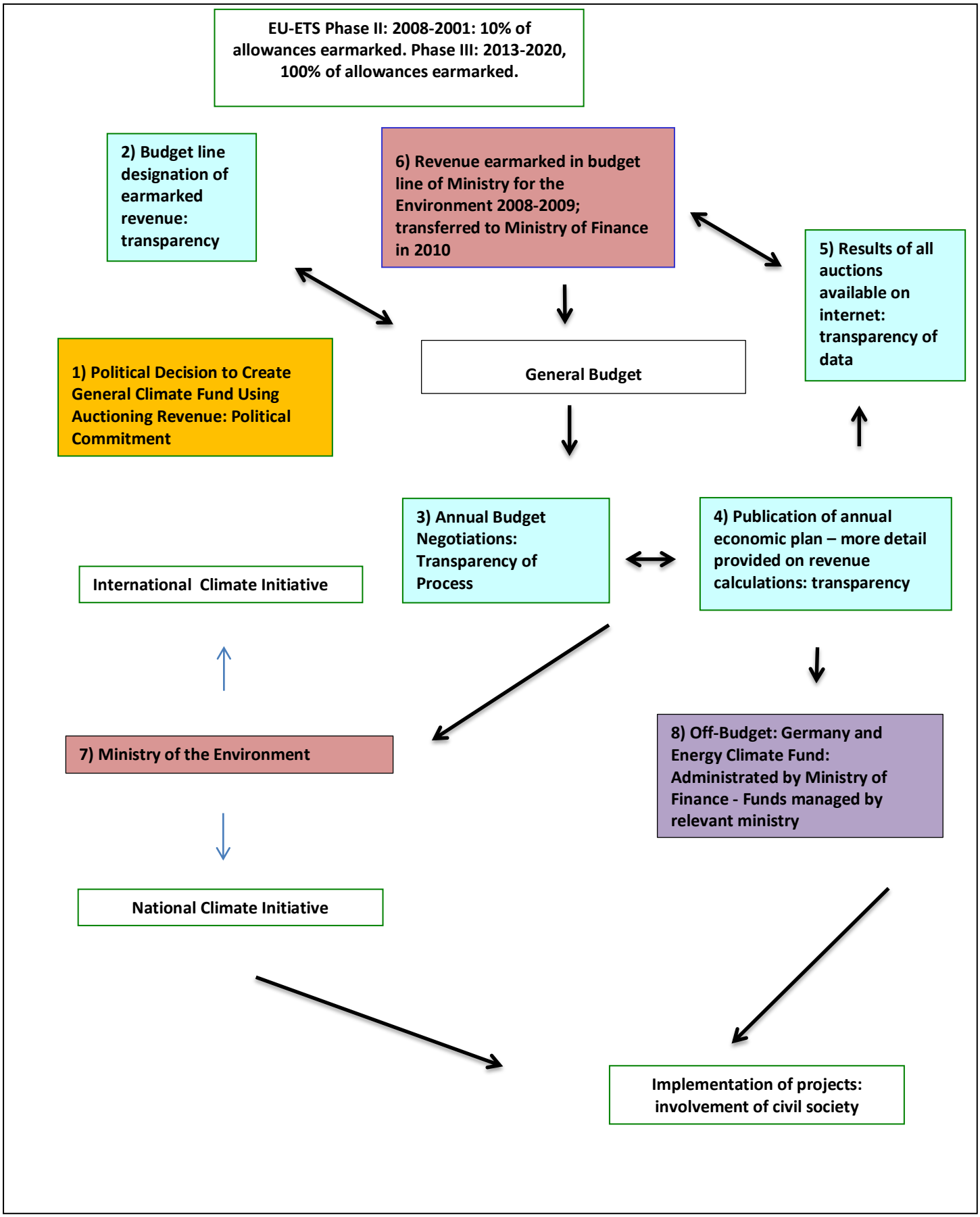
In Chapter 2, we determined that the effectiveness of earmarking will be a reflection of national budgetary practices. National budgetary practices that have earmarked MBI revenue have been more successful in terms of involving civil society and achieving environmental improvements in cases where: longer term management of funds is considered; the volume of revenue raised is manageable and meets the financial demand of the funded programme or project; the use of earmarked revenue is politically acceptable; and revenue is declared 'off-budget'. In some cases, earmarking is necessary in order to provide the transparency needed to legitimise implementation of the MBI. The German example meets a number of these criteria. Figure 10 below provides a detailed overview of how revenue has been earmarked, and how various stages of the process coincide with earmarking best practice. Referring to the numbered boxes in Figure 10, the following key success factors can be drawn out:

(Numbering coincides with consecutive stages of the earmarking process.)

Box 1	Long term management of revenue as part of a designated fund;
Boxes 2-5	Guaranteeing legitimacy of the MBI through transparency of budgetary practices;
Boxes 6-7	Designation of a specific fund manager; and
Box 8	In Phase III of the EU-ETS, EUA revenue is to be managed 'off-budget', although still subject to the standard annual negotiation procedures.

Figure 6-1 Earmarking of EUA Revenue for Germany Phases II and III

Source: Enting and Reich, publication forthcoming.



Civil society is extensively involved in the German earmarking process. The transparency of budget negotiations in allocating revenue implies a certain respect for public access to information as part of revenue allocation. The implementation of projects based on revenue expenditure has involved local communities, and has resulted in increased awareness of climate change. The overall transparency of the German earmarking process makes it possible to establish a clear link between the uses of revenue that results in environmental improvements, while also involving civil society. Its experience with EUA revenue earmarking to date is a 'good practice' that could be used to launch a more detailed discussion of what constitutes 'best practice'.

6.3 MBIs and Civil Society

As outlined in Chapter 5, Member States involve civil society in the implementation of MBIs in three ways: through access to information; standard consultation with the public; and active engagement with the public. The extent of these three factors will vary based on context, and is likely to be shaped by national compliance with relevant civil society legislation. In the German case, there has been considerable political support for the implementation of projects that improve the environment, particularly given the establishment of a Climate Change Fund, and the implementation of local climate change action plans. In 2011, 66% of the German population considered climate change to be the 'key' global challenge, suggesting that confidence in funded programmes and projects, and the government behind them, has been high. (Enting and Reich, publication forthcoming)

Given the fact that the involvement of civil society in MBIs is manifested in different ways, and that practices vary throughout the EU given divergent political cultures, the following issues should be considered in applying 'good practice':

- Is there strong support for the government in power?
- Is civil society taken seriously?
- What is the scope of civil organisations? Are they well organised in terms of contributing to the development of public policy?
- What is the MBI in question?
- Is civil society represented in the applicable governance structure?
- To what extent does the Member State in question comply with the applicable civil society legislation? Is there a history of civil society in this country?
- Are there other benefits associated with the involvement of civil society unrelated to environmental improvements?

In certain cases, it may be advisable to involve more targeted members of civil society as part of revenue allocation. The broader public could be involved once projects are implemented. For example, stakeholders that are negatively impacted by the EU-ETS with respect to increased cost of compliance may need to be

consulted regarding the use of revenue. Installations are not likely to benefit from the expenditure of revenue, and should at the very least have access to data regarding the use of both EU and Member State auctioning revenue. This illustrates the importance of harmonised reporting requirements as outlined in the revised Monitoring Mechanism. (See section 2.3.3.)

6.4 Final Conclusions

Generally speaking, all MBIs have the potential to generate revenue. The potential for different types of MBIs to generate enough revenue to meet the outstanding demand for climate finance is, however, questionable. If one considers the review of MBIs in Chapter 2, which includes a range of MBIs from across the EU, the EU-ETS and IET clearly have the highest revenue generating potential. Given that IET is a short lived MBI, it is really the EU-ETS that has the highest revenue generating potential of those reviewed in this report.

The effectiveness of the EU-ETS is highly dependent on the price of carbon. There is no indication that the integrity of the EU-ETS will improve in the short term, particularly without more certainty surrounding either a 30% reduction target, or the continuation of the Kyoto Protocol under a third commitment period. Its success hinges on its political acceptance by all 27 Member States, and the sectors it covers. Given expansion of the scheme to include aviation, and hence to include non-EU airlines, it also requires political acceptance by stakeholders and governments outside the EU. Without the involvement of aviation, it is also likely that the EU-ETS will lose a crucial segment of the market for EUA purchases and potential revenue. The absence of such an important sector will decrease the competition for EUAs, placing more downward pressure on the carbon price.

Political acceptability of the EU-ETS could be enhanced by effective earmarking given the looming trade war between countries responsible for non-EU airlines and the EU. The potential to implement harmonised earmarking practices throughout the EU will improve the transparency of revenue expenditure, thus providing entities purchasing auctioned EUAs with some indication of how their money is being spent. The transparency associated with earmarking also provides the transparency needed for civil society to express its interests, thus requiring governments to operationalise their involvement. The ‘good practices’ proposed here are intended to contribute to an anticipated debate regarding the potential for civil society to effectively engage in the allocation and expenditure of auctioning revenue by both the EU and Member State governments.

ANNEX A: INITIAL LONG LIST OF MARKET BASED INSTRUMENTS

Auctioning Related Measures

COUNTRY	TYPE OF MEASURE	RELEVANCE TO OVERALL PROJECT OBJECTIVE	PRESENTATION IN REPORT
		YES	**NO**
Ireland Hungary Lithuania	Experience auctioning EUAs	Revenue from auctions in **Ireland** used to finance administration of scheme in Phase I of EU-ETS. Not enough revenue was raised to finance environmental projects. Their experience will be used to illustrate the challenges associated with auctioning EUAs in general terms, but it does not contribute to a description of best practice. *[small case study]*	Not necessary to discuss Lithuania and Hungary due to low revenue creation.
Germany	Experience auctioning EUAs	Revenue has been earmarked for investment in GHG mitigation since 2008. Longer case study used to illustrate German EUA investment in environmental projects. *[full case study shortlist]*	
Austria	Experience auctioning EUAs		Lack of information.
France	Experience with EU-ETS		Lack of information.
Belgium	Experience auctioning EUAs		Lack of information.
Netherlands	Experience auctioning EUAs	The Dutch will be recycling 50% of auctioning revenue in to climate and energy projects, and to subsidise renewable energy.	No detail provided regarding intentions. See: www.rijksoverheid.nl
United Kingdom	Experience auctioning EUAs	Rejection of revenue recycling. The position of the UK NGO community will be presented as part of a case study, opposing the official UK position, and outlining the need for earmarking. *[full case study shortlist]*	
Poland	Experience	Rejection of revenue recycling	Lack of information.

COUNTRY	TYPE OF MEASURE	RELEVANCE TO OVERALL PROJECT OBJECTIVE	PRESENTATION IN REPORT
		YES	**NO**
	auctioning EUAs		

Other Market Based Instruments: Tradable permits, Taxation, Subsidies and Charges

COUNTRY	DESCRIPTION OF MEASURE	PRESENTATION IN REPORT	
		YES	**NO**
Czech Republic	AAU sales	Recent experience allocating funding from the sale of AAUs and the implementation of a Greening Investment Scheme. Longer case study completed. Czech EUA investment in environmental projects, and the role of the State Environmental Protection Fund in enhancing civil society. *[full case study shortlist]*	
Slovakia	AAU sales	Recent experience selling surplus AAUs. Case study used to describe the pitfalls of international emissions trading	
Bulgaria	Sale of AAUs/subsidies – Structural Funds	Recent experience selling surplus AAUs	Programme mentioned but no detail provided; no involvement of civil society in GIS.
United Kingdom	Climate change levy and Carbon Reduction Commitment	Experience recycling revenue from levy and CRC	Existing case study for UK
Denmark	Energy/CO_2 tax	Revenue recycled to civil society: progressive impact on welfare distribution	Two taxation examples already provided
Portugal	Energy tax	Revenues earmarked for energy efficiency projects.	Two taxation examples already provided
Ireland	Plastic bag tax	Revenue known to achieve environmental improvements; success of programme interesting given response to price signal at level of individual citizen.	Two taxation examples already provided
Slovenia	CO_2 tax	Revenue invested in energy efficiency and renewable	

COUNTRY	DESCRIPTION OF MEASURE	PRESENTATION IN REPORT	
		YES	**NO**
		energy. Discussed as part of mini case study	
Belgium	Waste disposal levy	Revenue invested in numerous types of environmental projects	Case Study provided for landfill tax in Spain
Spain	Landfill tax	Revenue used to fund local waste management: discussed as part of mini case study	
Sweden	NOx charge on large emitters	Revenue recycled to tax payers with noted ability to reduce NOx emissions (exception). Longer case study completed	

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