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FISCAL REFORM IN EC DEVELOPMENT COOPERATION

FINAL REPORT

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GLOSSARY OF ABBREVIATIONS

ACP countries	African, Caribbean, Pacific Countries
ADB	Asian Development Bank
AfDB	African Development Bank
ASGISA	Accelerated and Shared Growth Initiative
CARICOM	Caribbean Community: organization of 15 Caribbean nations + dependencies
CBF	Common Pool Funding (common basket funding)
CDM	Clean Development Mechanism
CREDP	Caribbean Renewable Energy Development Programme
CSPs	Country Strategy papers
DEAT	Department for Environment Affairs and Tourism (South Africa)
EDF	European Development Fund
EEA	European Environment Agency
EFR	Environmental Fiscal Reform
EIA	Environment Impact Assessment
ETR	Environmental (Ecological) Tax Reform
FiT	Feed in tariff
GBS	General Budget Support
GHG	Greenhouse Gas
GTZ	Deutsche Gesellschaft für Technische Zusammenarbeit
IEA	International Energy Agency
MDGs	Millennium Development Goals
MTEF	Medium Term Expenditure Framework
NEMA	National Environment Management Authority (Uganda)
OBA	Output-based aid
ODA	Official Development Assistance
OECD	Organisation for Economic Co-operation and Development
OECD DAC	Organisation for Economic Co-operation and Development, Development Assistance Committee
PEAP	Poverty Eradication Action Plan
PEI	Poverty Environment Initiative
PES	Payment for Ecosystem Services
RSPs	Regional Strategy papers
SACU	South Africa Customs Union
SARS	South Africa Revenue Services
SBS	Sector Budget Support
SCADD	Stratégie de Croissance Accélérée et de Développement Durable pour la période 2011-2015
URA	Utilities Regulatory Authority (Vanuatu)
WAEMU	West African Economic and Monetary Union
WSSD	World Summit on Sustainable Development (Johannesburg, South Africa, 2002)
WTO	World Trade Organization

DEFINITIONS OF KEY TERMS USED THROUGHOUT THE REPORT

Environmental fiscal reform	"Environmental fiscal reform" (EFR) refers to a range of taxation and pricing measures which can raise fiscal revenues while furthering environmental goals. This includes taxes on natural resource exploitation or on pollution. EFR can directly address environmental problems that threaten the livelihoods and health of the poor. EFR can also free up economic resources or generate revenues that can help to finance access of the poor to water, sanitation and electricity services (OECD, 2005, p.24).
Environmental tax reform	Environmental tax reform (ETR) is a reform of the national tax system where there is a shift of the burden of taxation from conventional taxes, for example on labour, to environmentally damaging activities, such as resource use or pollution. The burden of taxes should fall more on 'bads' than 'goods' so that appropriate signals are given to consumers and producers and the tax burdens across the economy are better distributed from a sustainable development perspective (EEA, 2005, p.84).
Environmental taxes	A tax whose tax base is a physical unit (or a proxy of it) of something that has a proven, specific negative impact on the environment (Eurostat 2001, p.9)[1].

[1] The terms market-based instruments (MBIs), economic instruments (EIs) and EFR instruments or measures are regularly being used to denote environmental taxes all these terms are being used interchangeable in the report.

EXECUTIVE SUMMARY

The term "environmental fiscal reform" (EFR), was initially used since the end of the 1990s in industrialised countries. It became recognized in the global political scene in 2005 following the reports published by the OECD Development Assistance Committee (OECD DAC) and the World Bank. EFR refers to the application of a range of taxation and pricing measures in domestic policies which can raise fiscal revenues while furthering environmental goals. The underlying concept, in the context of developing countries, is considered by the EC, UNEP, UNDP and countries, like the UK, Denmark, Sweden, Germany as a policy helping to achieve the Millennium Development Goals (MDGs) as developing countries are faced with huge challenges and are requiring to raise domestic revenues to invest in healthcare, schools, infrastructure and the environment. Therefore, it is not surprising that EFR is envisaged as an important component of the development policy tool kit.

Since the early 1990s experiences were gained with the EFR concept as several EU member states implemented environmental tax reform (ETR - also known under ecological tax reform or green tax reform). Both concepts (EFR and ETR) have in common that they are addressing multiple objectives simultaneously and applying the same policy tools, namely economic instruments aiming to incentivise environmentally-friendly behaviour and investment while also generating domestic revenues. The objectives of these policy packages are to achieve environmental benefits alongside fiscal / economical benefits as well as social benefits. ETRs in developed countries (i.e. EU member states) have been analysed widely revealing that the policy objectives associated with the ETRs have been regularly achieved. Similar reports analysing whether developing countries and in particular African, Caribbean and Pacific (ACP) countries are aware and making use of the EFR concept are not widespread. This project commissioned by the European Commission Directorate General for Development addresses this issue by presenting key aspects of the EFR concept, in particular by addressing the specific needs of developing countries, and with country case studies of five ACP countries analysing whether and which EFR actions and activities are implemented in the selected countries.

The European Commission strives to improve the synergies between tax and development policies as highlighted in the recently published Communication 'Tax and Development' (EC, 2010a). The significance of mobilising domestic resources in developing countries was highlighted at the 2002 'Financing for Development Conference' in Monterrey as well as at the Doha Declaration in 2008 when governments committed to "*step up efforts to enhance the tax revenues through modernized tax systems, more efficient tax collection, broadening the tax base and effectively combating tax evasion"*. The mobilisation of domestic revenues is one of the underlying principles of the EFR concept and EFR can also contribute to make the tax system efficient and equitable which is crucial for growth and poverty reduction (EC, 2010b).

EFR has the potential to play an important role in helping developing countries raise revenues, while creating incentives that generate environmental benefits and support poverty reduction efforts. These are key findings of the OECD and World Bank reports and it is definitely worthwhile to assess whether these objectives and their achievement are also holding true in reality. Examples of successfully implemented EFRs in developing countries are discussed in reports published by international organisations and others[2].The approach for analysing EFR in developing countries should therefore start with the compilation of relevant data and information about the current use of EFR instruments, such as environmental taxes and cost recovery measures, such as user charges for water supply, sanitation and waste disposal, as well as more general political, fiscal and environmental policies in place.

This project analysed the possibility for EFR in development policy. Data were compiled and an assessment carried out for the selected five ACP countries: three African countries (Burkina Faso, South Africa and Uganda), one Caribbean country (Barbados) and one Pacific country (Vanuatu). It is not only their geographical location, but also their size in terms of their population and the level of per capita income which differ. The inception report of this project from 2009 provides more insights on the selection criteria of these

[2] Examples of successful EFR can be found in UNEP (2004), OECD (2005) and World Bank (2005). See also the multiplicity of reports on EFR listed in Annex 7.

five countries (see: http://www.foes.de/internationales/oefr-in-entwicklungslaendern/?lang=en, http://www.foes.de/pdf/20100518Draft%20Inception%20Report_03%2007%2009%20.pdf)

All five countries have in common that they are making use of some environmental taxes, primarily in the form of taxes levied on transport fuels. Alongside taxes on vehicles and user charges for water supply – at least in some areas where a water network is in place - are also implemented. Country specific economic instruments for environmental management are also applicable. A crucial aspect in this discussion is the revenue generating capacity of the EFR instruments as one of the underlying principles of EFR is to mobilise domestic resources. The country studies show that revenues from environmental taxes are significant in their contribution to the national budgets. This does not mean that their contribution could not be expanded in the near future but this requires country specific designs by taking into account social policy issues and the question of poverty very serious. It is also worthwhile to highlight that countries, such as Uganda and South Africa, are making use of rather innovative economic instruments for the promotion of renewable energy sources as they provide feed-in-tariffs, for example.

The project shows that EFR measures are applied throughout developing countries, but the underlying concept of an EFR as a policy tool to achieve environmental and fiscal policies and to contribute to poverty reduction simultaneously is not too widespread. However, exceptions undoubtedly exist and probably the best example is South Africa. The National Treasury initiated a process of identifying the role economic instruments could play in supporting sustainable development. The Treasury commissioned a study aiming to provide a framework for identifying criteria for the development and evaluation of environmental tax policy proposals thereby laying the foundation for establishing a coherent fiscal and environmental policy framework. Different environmental initiatives promoting sustainable development were proposed under the heading of EFR in the Budget 2009/10. The main criterion for supporting EFR activities in developing countries (but also developed countries) is political support, as adhered to in South Africa, where key political decision makers – in case of South Africa the National Treasury – pursuit and implement the EFR concept in their day-to-day political work. Knowledge and expertise on EFR is limited in some developing countries, but there is interest in learning more about the underlying rationale, concept and the possible design of EFR, so international donors can play an active role in supporting the wider dissemination of EFR. In this context it is important to highlight the role of stakeholders, such as academics and NGOs, could play as they are often familiar with the EFR concept and therefore could serve as an entry point to promote EFR in developing countries as part of the development policy.

Considering the multiple benefits an EFR can achieve, it is also crucial to assess why the EFR concept is not more often part of national environmental, fiscal or development policies. Based on literature reviews and the outcomes of the interviews held in the countries, the main reasons for the disregard of EFR as a policy tool can be summarised as follows:

- other political priorities: poor integration of environment into other policies;
- environment policy and ministries are often weak;
- lack of human capital to carry-out the enforcement of environmental laws and rules; and
- Inadequate knowledge of the economic value of environmental resources or services.

A proper functioning legal and institutional setting is the basic requirement for the success of any EFR instrument (and any other policy measure). This aspect is of critical concern when discussing EFR proposals – either in the context of reforming already existing EFR instruments or implementing new ones. Institutional obstacles can impair the effectiveness of economic instruments as they are not a substitute for regulatory measures (i.e. command and control policies) implying that economic instruments '*also require strong institutions, adequate legislation, and effective monitoring and enforcement* (Huber et al., 1998, p.2)'.

A 'blueprint' or 'recipe book' for a successful EFR does not and will likely never exist. However, experiences gained in developed and developing countries as revealed in parts and in the references listed in this report can be transferred between countries and used as a starting point for discussing the designing of country specific EFR measures. The five country case studies demonstrate the variety of policies and challenges the

countries are facing. The differences in the fiscal regimes are a clear indication of the diversity the countries have to deal with. It is not a question of whether EFR measures are the right policy tools for developing countries but rather how the EFR must be designed so that an EFR can contribute to achieve the country specific policy objectives. The conclusion drawn from the five country studies do correspond to earlier findings that '*the suitability of individual instruments to specific countries will vary according to the country's level of development, resource endowments and institutional capacity'* (World Bank, 2005, p.iii).

As a consequence of the current economic, financial and environmental crisis new innovative financing instruments are studied at a global level (EC, 2010c). Fiscal instruments in environmental policy, such as energy and CO_2 taxes, emission trading schemes, have in common that they are putting a price on CO_2 emissions and can raise revenues which can be used for addressing the current challenges the world is facing. These instruments are attracting more attention and are introduced in more countries all over the world and are discussed in a recent IMF Working Paper as '*the most important recent development that could be suggestive of the direction of future tax policy trends* (Norregaard and Khan, 2007, p.7)'.

The findings of this project are in line with the overall EC policy of assisting 'developing countries in building efficient, fair and sustainable tax systems (EC, 2010a, p.2)' and reveals that environmental fiscal reform can be one of the building blocks of these tax systems. The country case studies reveal a large window of opportunity for developing and implementing proposals for EFR measures. This finding is applicable not only for the five selected countries, but for developing (and developed) countries in general. Countries can either reform already existing EFR measures with the aim to improve their performance making them for more effective or can be implementing new EFR proposals.

1 INTRODUCTION

1.1 Purpose of the project /report

The overall purpose of this project is to study Environmental Fiscal Reform (EFR) activities in developing countries. Furthermore the study, commissioned by DG DEV, aims to identify five African Caribbean Pacific (ACP) countries with a good potential for successful support for Environmental Fiscal Reform (EFR) by the European Commission, as well as to identify entry points for informed decisions about what fiscal reforms would be most relevant, and how the EFR process can be effectively designed and implemented in developing countries.

The Terms of Reference (ToR) spell out the rationale and objectives as well as the tasks of the project as follows:

> The current study aims to provide an overview of where Environmental Fiscal Reform (EFR) actions are being carried out and possibly supported by donors, and to where they could be undertaken within the context of the current generation of CSPs and RSPs (2007-2013). Furthermore, for those countries where such actions could be undertaken, the study should provide a starting point for informed decisions about what reforms are most relevant to a variety of specific sectors, and how the EFR process can be effectively designed and implemented.
>
> The purpose of the assignment is to provide an overview of which developing countries are undertaking EFR-actions (possibly with donor support), based on information from different sources (World Bank, OECD, GTZ, others).
>
> Furthermore, the study should establish criteria to identify where there is a good potential for successful EFR support by the EC within the context of the current generation of CSPs and RSPs (2007-2013). The study should select the best 5 candidate countries for such possible support, and for those countries provide a starting point for informed decisions about what reforms are most relevant, and how the EFR process can be effectively designed and implemented by means of case studies

The project must not be regarded as stand-alone but should rather be seen in the overall framework of EC policies regarding taxation and development[3]. It addresses several topics highlighted in the recently published EC Communication 'Tax and Development' (EC, 2010a). This communication is to the core of the project on assessing the potential of EFR in development cooperation as '*[it] aims to improve synergies between tax and development policies by suggesting ways in which the EU could assist developing countries in building efficient, fair and sustainable tax system and administrations with a view to enhancing domestic resource mobilisation in a changing international environment* (EC, 2010a, p. 2)'.

This report does not touch all the aspects and difficulties encountered in the tax systems of developing countries as stressed in the communication. Issues such the sound preparation of the national budget, issues surrounding tax administration and also the fact that developing countries are claiming '*that their capacity to mobilize domestic revenues is affected by international tax evasion and avoidance* (EC, 2010a, p.5)' are not covered. However, the findings of the report must be seen in the context of formulating a *more comprehensive tax approach to tax administration and tax reforms* (EC, 2010a) as environmental fiscal reforms should play an important role in tax reforms as experiences gained overall the world shows that environmental, economical/financial and social benefits can be achieved simultaneously

This project shows that environmental fiscal reform is a policy tool corresponding to the requirements laid down. The publication of this report is timely and can provide some useful insights and experiences gained of a policy tool which is widely promoted by international organisations as well as national governments. The

[3] For example, the Communication 'Promoting Good Governance in Tax Matters' (EC, 2009) and in particular the Communication 'Tax and Development - Cooperating with developing Countries on Promoting Good Governance in Tax Matters' (EC, 2010)

report reveals that different aspects of the EFR concept are already implemented in developing countries but that the underlying rationale is not too well-known.

1.2 Structure of the report

This report presents and explores the concept of environmental fiscal reform (EFR) as well as discusses some practical examples of EFR as implemented throughout the world. In addition, it debates the criteria used in selecting several ACP countries for a more detailed analysis. As mentioned in the ToR, this latter aspect is of particular concern for this project as it may lead to the provision of EC support for up to five ACP countries within the context of Country Strategy Papers (CSPs) or Regional Strategy Papers (RSPs) if there is a good potential for the success of an EFR.

The underlying rationale and principle of EFR is revealed in Chapter 2 thereby discussing the different benefits (environmental, fiscal and social) associated with the successful implementation of an EFR in the literature as well as emphasizing the different economic instruments which can be applied as part of an EFR. Chapter 3 discusses how the project was implemented by briefly highlighting the criteria being used in the identification of 25 ACP countries (first round) and furthermore in the selection of five ACP countries (second round) which will be analysed in more detail. The main findings of the five country studies[4] are presented in Chapter 4 Conclusions are drawn up in Chapter 5.

2 THE BACKGROUND OF AN ENVIRONMENTAL FISCAL REFORM (EFR)

2.1 Definition of EFR

The concept of an environmental fiscal reform (EFR) has been on the political agenda for more than two decades and has been introduced in many countries. A common notion of what EFR stands for can be found in two rather similar reports published by the World Bank (2005) and the OECD:

> "Environmental fiscal reform" (EFR) refers to a range of taxation and pricing measures which can raise fiscal revenues while furthering environmental goals. This includes taxes on natural resource exploitation or on pollution. EFR can directly address environmental problems that threaten the livelihoods and health of the poor. EFR can also free up economic resources or generate revenues that can help to finance access of the poor to water, sanitation and electricity services (OECD, 2005, p.24).

The World Bank report is referring to the concept of EFR in the same way as the OECD stating that '*this is achieved by providing economic incentives to correct market failure in the management of natural resources and the control of pollution* (World Bank, 2005, p. 7)'. The OECD / World Bank definition of EFR emphasizes the revenue-raising capacity as well as the incentive aspect (i.e. 'while furthering environmental goals') of economic instruments.

It is worthwhile mentioning that the concept of an ecological tax reform (ETR) is more widespread in the European context and can be seen as a form of an EFR. This fact is insofar of significance as European countries are often described as the forerunners in the implementation of these policy approaches. The difference between the two concepts, i.e. between ETR and EFR, becomes clearer in the definitions used in a report published by the European Environment Agency (EEA):

> Environmental tax reform (ETR) is a reform of the national tax system where there is a shift of the burden of taxation from conventional taxes, for example on labour, to environmentally damaging activities, such as resource use or pollution. The burden of taxes should fall more on 'bads' than

[4] The five country case studies are presented in the Annex.

> 'goods' so that appropriate signals are given to consumers and producers and the tax burdens across the economy are better distributed from a sustainable development perspective.
>
> Environmental (or ecological) fiscal reform (EFR) is a broader approach, which focuses not just on shifting taxes and tax burdens, but also on reforming economically motivated subsidies, some of which are harmful to the environment and may have outlived their rationale …. EFR is a more recent development than ETR and offers more opportunities for progress, and is more in line with the 'polluter pays' principle and the concept of sustainable development (EEA, 2005, p.84).

The underlying rationale of EFR and ETR is clearly overlapping as both concepts are aiming to accomplish several policy objectives simultaneously, i.e. achieving environmental, fiscal / economical and social / pro-poor benefits[5]. However, a difference between the concepts of ETR and EFR is evident as the former approach discusses the revenue raising potential of an ETR in the context of shifting the burden of taxation. This implies that the policy goal of this approach is not to increase the national budget, i.e. the revenue neutrality principle is often used as a synonym for describing this outcome in the European context[6]. The concept of an EFR in the line with the OECD and World Bank meaning is undoubtedly directed to the policy objectives of raising fiscal revenues which then can be used for a range of different policy objectives as discussed in more detail below. Nevertheless it can be stated that domestic resource mobilisation is – apart from reaching environmental benefits in form of reduced environmental pollution and reduced natural resource consumption – an important policy goal of EFR and ETR. What follows is that EFR can be seen as a policy tool linking fiscal and environmental policy which has not attracted a lot of attention from fiscal and / or environmental policy makers.

The concept of an EFR is rather striking because of its complexity as it considers not only a range of policy measures and economic instruments which can be implemented but it also discusses options of how revenues can be spent. EFR is not a 'stand alone' policy package as it is must always be aligned with the prevailing economic, legal and institutional framework. In addition, it must be highlighted that EFR is only a policy package as emphasized by the OECD:

> These [EFR] instruments do not substitute for but complement and strengthen regulatory and other approaches to fiscal and environmental management. EFR instruments should therefore be thought of components of fiscal and environmental policy mixes …. it is only one of the ways through which fiscal authorities can raise additional revenue (OECD, 2005, p.24).

A crucial fact has to be considered when speaking about the potential benefits of an EFR. One of the features of an EFR is the attempt of achieving multiple objectives / benefits simultaneously. However, trade-offs can exist between these multiple objectives meaning that the realisation of one of the policy objectives may exclude another benefit. For example, there can be a conflict in the simultaneous realisation of environmental and fiscal benefits because of the divergence between the revenue-raising capacities of specific economic instruments implemented as part of an ETR and their capacity of being environmental effective, i.e. the economic instruments, such as a SO_2 tax, is environmental effective thereby reducing the tax base leading to a decline in the revenues generated from this economic instruments. This implies that it has to be asked why an economic instrument has been implemented when its effectiveness is analysed, i.e. what are the policy objectives for its introduction.

When setting the scene it is rather useful to emphasize the distinct starting point underlying the concepts of ETR and EFR. The former concept is implemented in developed countries as compared to the latter which is currently promoted in the context of developing countries. The World Bank report makes this quite clear as it states the following:

[5] See for a more detailed discussion on the potential benefits: OECD, 2005, Chapter 1 and World Bank, 2005, Chapter 2.
[6] ETR may be seen as a special case of an EFR in the sense that the revenues generated as part of the ETR policy are already planned to be used for specific purposes (i.e. hypothecated) as compared to an EFR where the revenues are not committed (i.e. earmarked) for specific policies and are part of the general budget.

> Broadly speaking, EFR can: 1) mobilise revenue for governments; 2) improve environmental management practices and conserve resources; and 3) reduce poverty (World Bank, 2005, p.1).

The last feature of EFR 'reduce poverty' must probably be seen in the wider context of sustainable development and especially the Millennium Development Goals (MDGs). Furthermore, it is clear that this aspect played a minor role in the ETRs implemented in developed countries as reflected in how the revenues generated as part of the ETR are mainly used. They have been used in a revenue neutral way meaning that the overall budgetary resources remained constant as ETRs are introduced as a tax-shifting programme[7]. This is in contrast to the EFR concept as one of its decisive aspects is that the revenues generated can and may be used to finance poverty reduction measures. This difference with regard to the overall policy objective is not too far-reaching and it can therefore be argued that ETR is a special form of EFR.

2.2 Discussing EFR in the context of developed and developing countries

The political reality shows that EFR is a policy package that could be applied both in developed and developing countries. However, the exact design of the EFR must reflect the different general conditions (economic, political, institutional, social, legal, etc.) as well as the policy objectives which the countries want to realise. This implies that there is no 'one fits all' approach. The starting point is different between countries which will also be mirrored in the economic instruments to be available and is discussed in more detail below. Another aspect underlining these differences is the question what to do with the revenues raised by EFR. The discussion of EFR in the developing country context stresses the social and 'pro-poor' benefits because additional funds generated by EFR instruments may be available for investments thereby improving the health sector, education etc. The aspect of domestic resource mobilisation and thereby potentially increasing the national budget is in contrast of very limited relevance in developed countries where the political discussion is rather in reducing the national budgets.

The significance of generating additional funds can partly be explained by the often large differences between countries. Foremost the difference is striking when comparing the 'tax revenue-to-GDP' ratio between developed and developing countries. For example, the EU as a whole is a high tax area[8] – also compared to other developed countries, i.e. non-European OECD countries - as the tax ratio amounts to about 40% but can also be close to 50% in countries, such as Sweden. This ratio can be compared to the situation of developing countries where the ratio is often around 10-25% revealing that governments are regularly lagging the financial resources for necessary investments and / or for funding social programmes and thereby improving the situation of the poor. Increasing domestic revenue not only creates additional space for supporting MDG-related spending; it also allows a country to assume ownership for its policy choices. As underlined in the Doha Declaration, mobilizing domestic financial resources for development is central to the global partnership for sustainable development, especially in support of the MDG. For the developing countries this partnership means enhanced efforts to mobilise domestic resources to finance development priorities while donors have to respect their commitment to provide long-term and predicable assistance towards internationally agreed poverty reduction objectives (EC, 2010a, pp. 2-3). In addition, developing countries are regularly relying on trade taxes as a source of generating funds for the national

[7] It seems useful and timely mentioning the most current discussion in the context of ETR (tax-shifting programme) in the UK. The current economic and financial crisis and the policy measures addressing the crisis led to a dramatic increase in the public deficits. It may now be argued - as done by the Green Fiscal Commission in the UK - that an increase in environmental taxes are undertaken instead of an increase in other taxes, such as VAT, income taxes, etc., to reduce the public deficit. This proposal is not in line with the revenue-neutrality of ETR but can be linked to the idea of domestic resource mobilisation which is one of the principles of EFR (Green Fiscal Commission, 2009).

[8] See for a detailed discussion with regard to the tax-to-GDP ratio and data for the individual EU member states: Eurostat, 2007

budgets. This type of a tax can be problematic because of the question whether trade taxes are fully compatible with World Trade Organization (WTO) regulations[9].

This discussion sheds light on the differences countries are facing, in particular related to potential fiscal benefits. In the case of developing countries the fiscal benefit, i.e. domestic resource mobilisation, may rather be associated with social and 'pro-poor' benefits. The situation in developed countries is not the same as the issue of not increasing the overall tax burden in case of an EFR/ETR is to the fore, i.e. adherence to the principle of revenue neutrality. In fact, the spending programme of revenues generated by an EFR can be designed in a way to overcome political resistance. To this end, the spending may be equally important in these countries, but likely for other country-specific purposes and policies.

However, the environmental benefits associated with EFR are undoubtedly similar as the EFR should provide incentives for curbing environmental pollution as well as incentives for sustainable natural resource management. Furthermore, EFR can be seen as part of an overall reform process by broadening the tax base as well as in the context of a public finance management reform.

2.3 Instruments to be applied as part of an EFR

EFR is a broad concept with regard to policy measures which may be implemented. In general, a distinction between the following four types of EFR instruments is made (OECD, 2005 and World Bank, 2005):

1. taxes on natural resource extraction (renewable resources: forestry, fishery; and non-renewable resources: minerals, etc.)
2. environmentally related taxes and charges (product taxes, taxes on polluting substances, taxes on energy, etc)
3. subsidy reforms
4. user charges (for the delivery of services in the field of water supply, sanitation and waste)

The concept of EFR namely the notion of domestic resource/revenue mobilisation is of great relevance for developed as well as developing countries and must not be regarded as detached from the current political discussion on reforming the overall taxation systems. Many developing countries are currently facing big challenges in reforming their tax/fiscal system as it regularly relies on international trade taxes which may not be in accordance with the requirements and policies of the World Trade Organization (WTO) and may be in conflict with the globalisation process (see for example the country case studies Uganda and Burkina Faso in the Annex 8).

It is necessary to clarify the term environmental taxes as used in this study by referring to the widely accepted definition of environmental taxes. This definition is based on the statistical framework and was jointly developed by international organisations, such as the OECD, Eurostat (the statistical office of the European Communities), IEA (International Energy Agency) and the European Commission. In their understanding an environmental tax is: "A tax whose tax base is a physical unit (or a proxy of it) of something that has a proven, specific negative impact on the environment" (Eurostat 2001, p.9).

The crucial point of this definition is the fact that the tax base is considered as '*the only objective basis for identifying environmental taxes for the purpose of international comparisons'* (ibida, p.9). This implies that neither the name nor the purpose of the tax as well as the motivation or intent for implementing this economic tool are reflected in this widely accepted definition at all. Hence, also taxes introduced mainly for 'revenue raising' purposes are regarded as environmental taxes under this definition.

Many developing countries are relying on the extraction of natural resources, which are legally owned by the state. Natural resources are important for many reasons as they are major inputs in industrial processes, and

[9] Trade taxes and non-tax revenues, such as fees and royalties from natural resource taxation, are making up around 28% of total government revenues in Latin America and of around 30% in Indonesia as compared to only 15% in OECD countries. The relative ease of collection and enforceability is one of the reasons for the significance of trade taxes in developing countries (OECD, 2008a).

are important for the livelihood of the population. In addition, they can be a significant source of revenues for the state as seen in the case of Norway where the income generated by the Norwegian petroleum activities is deposited[10]. However, establishing an efficient and effective form of a taxation scheme of natural resources is rather complex and requires a properly functioning institutional set-up[11].

A large number of different instruments are belonging to the second type of EFR policy tools. There are slightly different classifications of the instruments falling into this category. The key difference is whether the tax is levied on actual emission or pollutant or is based on either inputs or outputs from a polluting activity (World Bank, 2005). Water effluent taxes and air emission taxes are belonging to the first category. More important in terms of their revenue-generating capacity are the taxes of the second category, in particular taxes levied on energy use. For example, energy taxes are amounting to between 70 and 80% of total revenue from environmental taxes at EU level (Eurostat, 2007) as compared to about 40-50% in Sri Lanka where the revenues from taxes levied on motor vehicles are comprising of up to 55% of total environmental tax revenue (Ministry of Environment and Natural Resources Sri Lanka, 2008). This example also reveals that developing countries may have rather low energy tax rates and tax exemptions[12]. The setting of tax rates is essential for achieving the incentives and efficiency gains associated with these economics instruments.

Furthermore, transport fuel prices are sometimes regulated by the government in developing countries. This can lead to a situation that increases in world oil prices are not transposed into the domestic prices. In the past, governments in different developing countries, such as Indonesia and Malaysia, increased the regulated domestic energy prices as a consequence of an increase in the world oil price. This led to some forms of social unrest and governments have revoked the price increases. This implied that the domestic energy prices were still subsidised and therefore having a negative effect on state finances as the government may grant subsidies to the energy companies offsetting their losses. An example of this situation could be found in Sri Lanka (Ministry of Environment and Natural Resources Sri Lanka, 2008).

The discussion of a subsidy reform[13] is not limited to the EFR framework but a policy issue deserving much broader attention in the political reality considering the large number of reports addressing this issue in recent years (see EEA, 2005 and in particular UNEP, 2003 and OECD, 2007). The existence of subsidies[14] is a phenomenon which can be found in developed and developing countries. For example, it is estimated that US energy subsidies are worth USD 49 to USD 100 billion per year from federal policy alone and are distributed to oil, gas, nuclear power and ethanol (Koplow, 2007, p. 106). Even more striking are the most recent figures of Indonesia reporting that the combined subsidies for energy fuels and electricity are estimated to be in the range of USD 20.5 billion in 2008 amounting to '*about 20% of total GOI [Government of Indonesia] spending and outstripping GOI spending on housing, law and order, health and education combined* (Jacobs, 2009, p.xiv)'. This latter figure is undoubtedly revealing the magnitude of subsidies currently in place. The importance of a subsidy reform is also reflected as subsidies are fixing a large sum of scarce funds of the government and in the case of Indonesia exceeding spending of policy programmes which would otherwise benefit the poor part of the society. In addition, subsidies are regularly being granted as special social policy objectives which should be realised and also to protect the poorer part of the society from increased prices and costs. However, these goals are not always realised as revealed by two reports

[10] See for further information: http://www.regjeringen.no/en/dep/fin/Selected-topics/the-government-pension-fund.html?id=1441.

[11] See for a more detailed discussion and example of natural resource taxation: OECD, 2005, chapters 5 and 6. Further information on the linkage between natural resources pro-poor growth in the recently report published by the OECD: OECD, 2008b.

[12] See also the discussion in World Bank, 2005, p. 38

[13] Subsidy reform does not always imply that subsidies have to be abolished completely. This term can also be interpreted in a sense that subsidies are reduced over time and / or restructured.

[14] A unique and widely accepted definition of the term 'subsidy' cannot be found in the literature – see for a discussion regarding this term: EEA, 2005, Chapter 5.

analysing the effectiveness of energy subsidies in developing countries (Coady et al., 2006 and Lueth et al., 2006)[15].

The findings of these reports as well as the political reality clarify the urgency of starting a subsidy reform aiming at freeing up scarce budgetary resources. This is of significance as developing country governments do need to raise domestic revenues for investments in healthcare, infrastructure and the environment for meeting the MDGs. But subsidy reform does not necessarily mean to remove all subsidies but rather to reduce and / or restructure subsidies so that only the poor are benefitting from them. The political discussion of subsidy reform is rather tricky as it should be differentiated between 'environmental harmful' subsidies and 'environmental friendly' subsidies. There is widespread support in reforming fossil fuel subsidies[16] as compared to policies promoting the use of subsidies in the field of renewable energy resources as done in developed and developing countries in form of feed-in tariffs or enhanced capital allowances. All these latter forms of subsiding renewable energy sources can be described as 'environmental friendly' but should also be designed with a gradual phase-out in mind.

The EFR instruments discussed so far have in common that they can generate additional budgetary funds (i.e. achieving fiscal benefits). The last type of EFR instruments can only lead indirectly to the goal as '*user charges … are payments in return for the provision of a service* (OECD, 2005, p. 34)'. The most well-known examples are user charges (also called tariffs) for water and sanitation and for waste collection. The aim of these pricing tools is not to raise revenues for the national budgets but to cover the actual costs of the service provider which can be either a private or a public company. It is regularly the case that the government will or have to cover the shortfall in revenues by service providers when their costs are not covered by the receipts of user charges. This is often the case in developing countries as the setting of user charges can be either nfluenced or regulated by the government. In this situation the introduction of user charges or their increase can free up budgetary resources as the transfer of governmental resources can be reduced. Hence the saved resources can be used for improving the quality of service provisions, i.e. investment in infrastructure, or funding other policy objectives. This indirect effect may be valuable but it is essential in the context of analysing the potential of EFR to highlight that user charges should not be seen as revenue raising tool for the national government but for the service provider.

2.4 EFR revenue spending programmes

Re-visiting the notion of an EFR is interesting when studying its revenue spending potential since the definition used by the OECD and World Bank is slightly vague regarding how they can be spent. However, the question of using the revenues generated either by environmental taxes or by reforming or scaling back subsidies is key feature of an EFR. In general, several options of revenue allocation, which are not necessarily mutually exclusive, can be thought of:

- Revenues accrue to the National Treasury /Finance Ministry and are allocated to priority spending needs through the normal budgetary process, for example for pro-poor investments as well as investments related to health, education;
- Revenues accrue to the Treasury and are used as part of a tax-shifting exercise to reduce the tax rates of other distortionary taxes such as those imposed on labour;
- Revenues are 'earmarked', 'hypothecated' or 'ring-fenced' for finance pre-determined programmes. For example, spending on specific environmental investment programmes, e.g. renewable support programmes, but also for pro-poor programmes;

[15] For example Lueth et al (2006) summarised that '*fuel subsidies are not a cost-effective approach to protecting the real incomes of low-income households*' and '*…subsidies are typically inefficient and regressive, as evidenced by the substantial leakage of existing subsidies to high-income households*'.

[16] See for example the communiqué of the G 20 leaders in Pittsburgh in September 2009 (Leaders' Statement, The Pittsburgh Summit, September 24-25 2009, G20 Communiqué, p.14) stating: *[...] Enhancing our energy efficiency can play an important, positive role in promoting energy security and fighting climate change. Inefficient fossil fuel subsidies encourage wasteful consumption, distort markets, impede investment in clean energy sources and undermine efforts to deal with climate change.*

- Revenues accrue to the Treasury but there is some form of 'agreement' that spending on environmental programmes will be increased through 'on-budget' channels.

It is interesting that the OECD is referring to option 2 using the phrase of a 'comprehensive EFR'[17]. This option can be described as the basic framework of the ETR as implemented in several EU member states, including Denmark, Sweden, Germany and the UK. It follows the revenue neutrality principle meaning that this process leaves the overall budgetary position of the government constant as the generated revenues are used to offset the losses of tax revenues caused by a reduction of other distortionary taxes.

Although it can be envisaged that the second option could be of some interest for developing countries, option 3 may be of greater relevance and interest. In contrast to the 'tax-shifting' policy referred to in option 2, earmarking revenues from environmental taxes for spending on specific environmental programmes (option 3) is promoted by some interest groups. However, earmarking (or hypothecating) tax revenues does not generally constitute sound fiscal management practice; an assertion heavily supported by international best practice. Despite these arguments, earmarking of tax and charge revenues for environment purposes is practised in some countries, particularly in the new EU member states during the transition period as a form of leveraging EU funds for environmental investment programme. Revenue recycling can also help to increase the acceptability of the EFR process by the public.

2.5 Design of an EFR

The design of an EFR must take into account country-specific features and conditions (legal, political, economical, legal, institutional, etc.) which implies that there is no EFR approach of one fits all. This can already be seen in the context of the ETRs – a special type of an EFR - implemented in EU member states over the last two decades. Although all countries either introduced new or increased existing taxes levied on energy products, the adopted recycling mechanism differed widely. The reasons for these differences are manifold reflecting that the underlying fiscal systems do largely differ between developed countries and that the policy objectives of the different governments also differed, i.e. the question of which fiscal, environmental and economic benefits should be addressed and achieved.

The importance and complexity of designing an EFR successfully is stressed in the OECD publication as a whole chapter is attributed to this issue. Interesting to mention is the fact that, although the definition of EFR as applied by the OECD is rather short and vague in the spending site of this reform process, the discussion of revenue allocation is portrayed as one of the key features when an EFR is designed.

Different aspects and dimensions have to be taken into account when designing an EFR. First and foremost, aspects of equity, environmental vs. fiscal effectiveness (i.e. the possible trade-off between the revenue-raising capacity vs. environmental improvement), administrative and political feasibility are to be considered. These more general aspects ('sine qua non' conditions) should be integrated in every EFR proposal for being successful. Other design features are crucially depending on the question of the policy objectives of the EFR, i.e. which policy objectives are being addressed[18].

Policy measures addressing the potential public unease with EFR proposal should be taken seriously and dealt with during the design phase. This unease is not too surprising as any EFR instrument will lead to an increase in the burden as the instruments will raise end-user prices. The measures overcoming some of these attitudes can be divided between mitigation and compensatory measures. The former ones are ex-ante measures implying that, for example, the potentially most vulnerable households as well as industrial sectors are either partly or fully exempt from the EFR instrument. For example, energy-intensive industrial

[17] See definition of OECD, 2005, p.35: *"Comprehensive" (or "cross-sectoral") EFR refers to approaches that build-in environmental considerations in macro- or sectoral-level tax policies, through reforms to instruments such as corporate taxes, depreciation allowance and others, in order to support broad fiscal reform objectives while providing an environmental orientation to the general tax structure.*

[18] A detailed discussion of how to design the EFR process can be found in OECD, 2005, Chapter 3.

sectors are regularly facing lower energy tax rates than the service sector and households. Another mitigation measure which can be found in several developing countries is the application of increasing block-tariffs (user charges) for water and electricity.

Compensatory measures are being applied differently as they are ex-post tools. This means that there are no exemptions with regard to the EFR instruments but that affected sectors may be eligible for special public support measures aiming to mitigate the higher burden caused by application of the EFR instrument.

The outcome of these measures is rather different with regard to the revenue accrued as mitigation measures will undoubtedly lead to lower revenues which is not the case when compensatory measures are applied. Compensatory measures also have financial implications, as the practice is that parts of the generated revenue are being used for their financing.

2.6 Examples of EFR

As discussed above the concept behind EFR as applied by the OECD and World Bank is very broad, in particular, when considering the four types of instruments which are listed as being a component of an EFR policy package. Therefore it can be argued that EFRs are in one way or the other implemented in all countries as for example user charges for service provisions as well as electricity tariffs are adjusted over time. However, this does not say anything whether the underlying principle and objective is achieved and that the costs of service provisions are covered by user charges and not being subsidised from other sources.

Probably more interesting and also closer to the idea and concept behind EFR are policies dealing with the other EFR instruments as they have in common addressing the environmental and fiscal features simultaneously and therefore providing the required funds for financing either poverty reduction measures or environmental infrastructure.

2.6.1 Developed countries

Examples of ETRs are widespread and in detail documented in reports published by international institutions, national governments, NGOs and academics. Providing a comprehensive overview of reports discussing ETRs is not possible owing to the limited time and budget constraints. A list of reports and publications devoted to the subject of EFR actions can be found in Annex 5 below. In addition examples of EFR activities are presented in Annex 6.2.2 – to be checked!

2.6.2 Developing countries

The main focus of the project is directed to EFRs in developing countries and in particular in ACP countries. During recent years a whole range of reports have been published analysing the use of economic instruments in developing countries. The analysis underlying many of these reports is not directed at the concept of EFR but rather to highlight the general use of economic instruments in environmental policy[19]. Discussions on the revenue potential of economic instruments have often been blanked out.

However, the most recent political development reveals that countries, such as Vietnam and China, are showing great interest in EFR as questions of what will be done with the revenues generated are explicitly discussed at the political agenda[20].In Vietnam, the Prime Minister has decided that by 2011 an

[19] See for example the reports published by international organisations: Inter-American Development Bank (2003a and 2003b), UNEP (2004), Asian Development Bank (1997). In addition, individual countries, such as South Africa and Sri Lanka, carried out studies on EFR (see Annex 7.3) . These country studies did highlight the revenue raising aspect of economic instruments but stopped short in analysing potential spending programmes.

[20] See for example the statement of the Prime Minister of Vietnam as quoted in ETAPC, 2008, p.15: *An Environment-Related Tax Law will be summated to the diet before the end of 2008, which imposes taxes on goods and services polluting the environment. The tax base will be decided on each product and service which pollutes the environment. The revenue of the tax is used only for special purposes of environmental protection, and not approved to cover any other needs of the state budget.*

Environmental Tax Reform shall be introduced. The revenues shall be used for environmental protection. In China, the China Council on International Cooperation on Environment and Development (CCICED) has set up a Task Force in 2008 which examined the potential for the introduction of environmental taxes. The final report was delivered in November 2009 to the Annual General Meeting (AGM). The major recommendation is to gradually increase energy taxes/prices in line with the energy productivity so that it is predictable, energy efficiency is boosted, but nobody would be worse off. Other countries such as Indonesia, Tunisia and Morocco have shown some interest, but are not yet in a position to examine concrete steps.

So far, it can be stated that - based on the finding of the desk /literature reviews - CSPs and RSPs rarely include any environmental economic assessment or discussions of economic instruments which are applied in the environmental field in the respective countries. The discussion of environmental issues is a regular component of these reports focusing on the environmental profile of the country and / or region and highlighting the environmental problems of the respective countries (for instance, biodiversity loss, water shortage, environmental pollution, etc). They fall short of identifying policy measures/instruments currently implemented with the aim of overcoming these problems. However, the EC can imagine EFR as a potential tool in development cooperation as stressed in a recent document (EC, 2009a). The EC stressed that advice and capacity building in this field of linking environmental, fiscal, social economic features can be provided. Although the term EFR is not explicitly noted in the 2007 African Development Report (AfDB, 2007[21]) it covers all aspects of an EFR. For example, it refers to Botswana where the '*government relies heavily on diamond rents and has made significant investments in education and health, with impressive results* (AfDB, 2007, pp.152-153). Revenues from these natural resource taxes increased in sub-Saharan Africa during the last years thereby increasing the tax-to-GDP ratio. However, these tax revenues are highly volatile and hard to predict and are not necessarily a sustainable revenue source and making budget planning more difficult (EC, 2010b, p.6).

The massive increase in the world oil price in 2008 led to a rethink in many developing countries, in particular in those with energy price regulations. The increase in the world oil price has not been passed on to the final consumers causing huge subsidy payments to energy distribution companies as mentioned above with regard to Indonesia. Subsidy reforms reflected in an increase in the end-user energy prices were common during 2008 as the huge drainage of public funds to subsidise energy prices (keeping these prices artificially low) could not be financed any more. The starting point for this policy process has not been any environmental considerations but undoubtedly fiscal deliberations have been the key driving forces for these policies of increasing domestic energy prices caused by the rise of the international oil price.

2.7 Summary and conclusion

During recent years environmental fiscal reform (EFR) became quite prominent on the political agenda as part of international development policy, in particular with the publication of the above mentioned World Bank and OECD reports. For example, the OECD Development Assistance Committee (DAC) concluded that *'EFR is an important part of the development policy tool kit* (OECD, 2005, p.12)'.

EFR is not only assessed as important from the perspective of developed countries but also developing countries are realising its potential. One of the most prominent examples is South Africa as discussed in the country case study. The potential advantages and benefits associated with an EFR are clear-cut in the theoretical discussions but they are also achieved in political reality as revealed in different reports covering the experiences of developing countries.

However, it must be clearly stated that there are obstacles and also drawbacks associated with the implementation of EFR. The main obstacles impeding the introduction of EFR and especially EFR instruments are distributional issues and the potential loss of competitiveness. The origin of these fears is that EFR instruments, such as environmental taxes, subsidy removal and changes in the user charges, will increase the relevant prices affecting in particular the poor. Appropriate mitigation and compensatory

[21] See in particular Chapter 5: Making Natural Wealth Work for the Poor.

measures can deal with these features and minimise potential drawbacks, i.e. the questions of properly designing a smart EFR package and how to present this policy to the citizens of a country are therefore essential. It can be assumed that distributional issues are of bigger concern in developing countries as in developed countries.

3 FINDINGS OF THE COUNTRY STUDIES

The case studies of the five selected ACP countries are providing a quite diverse picture in numerous aspects including the understanding and knowledge of the concept environmental fiscal reform (EFR) which is the central focus of this study. But it must be stated that this result is not surprising at all as we can expect to draw the same conclusion when assessing EFR in developed countries as some EC countries, such as the Scandinavian countries, the UK, the Netherlands, Germany, Czech Republic and Estonia have already implemented EFR / ETR concepts and others not.

The following paragraphs are summarising the main findings of the five ACP country case studies but can only provide an initial and by far not exhaustive indication regarding EFR activities. Detailed information underlying these findings can be found in the country case studies where all these topics and issues are assessed and discussed in more detail.

3.1 The five ACP countries – some background information

Table 1 below provides some basic geographical, economic, financial and environmental background information of the selected five ACP countries[22] clearly revealing the different stages of development the selected countries are.

Table 1: Overview of the five analysed ACP countries

	Barbados	**Burkina Faso**	**South Africa**	**Uganda**	**Vanuatu**
Geography	Caribbean	Western Africa	Southern Africa	Eastern Africa	Oceania, group of islands in the South Pacific Ocean
Government type	parliamentary democracy	parliamentary republic	republic	republic	parliamentary republic
Economy - overview	By per capita income, Barbados can be considered an upper middle-income country and the richest country in the Caribbean. Traditionally	One of the poorest countries in the world, landlocked Burkina Faso has few natural resources and a weak industrial base. About 90% of the	South Africa is a middle-income, emerging market with an abundant supply of natural resources; well-developed financial, legal, communications, energy, and	Uganda has substantial natural resources, including fertile soils, regular rainfall, small deposits of copper, gold, and other minerals, and	Small-scale agriculture, provides for a living for about 70% of the population. Fishing, offshore financial services, and tourism, with

[22] The source is the *CIA The World Factbook* https://www.cia.gov/library/publications/the-world-factbook/ which is used as it provides rather consistent information with regard to the countries. More detailed information can be found in the country case studies. It must be said that some of the information may differ between this table and the information compiled in the country case studies.

	dependent on sugar cane production the economy has diversified into light industry and tourism with about three-quarters of GDP and 80% of exports being attributed to services.	population is engaged in subsistence agriculture, which is vulnerable to periodic drought.	transport sectors; a stock exchange that is 18th largest in the world; and modern infrastructure supporting an efficient distribution of goods to major urban centers throughout the region.	recently discovered oil. Uganda has never conducted a national minerals survey. Agriculture is the most important sector of the economy, employing over 80% of the work force.	nearly 197,000 visitors in 2008, are other mainstays of the economy.
Population	284,589	15,746,232	49,052,489	32,369,558	218,519
GDP (official exchange rate)	$3.637 billion (2009 est.)	$7.871 billion (2009 est.)	$280.6 billion (2009 est.)	$15.84 billion (2009 est.)	$560.5 million (2009 est.)
GDP per capita (PPP)	$18,500 (2009 est.)	$1,200 (2009 est.)	$10,100 (2009 est.)	$1,300 (2009 est.)	$4,800 (2009 est.)
GDP composition: agriculture / industry / services	6% / 16% / 78% (2000 est.)	29.4% / 20.1% / 50.5% (2009 est.)	3.5% / 32.1% / 64.4% (2009 est.)	22.2% / 25.1% / 52.8% (2009 est.)	26% / 12% / 62% (2000 est.)
Population below poverty line	n.a. %	46.4% (2004)	50% (2000 est.)	35% (2001 est.)	n.a. %
Budget	revenues: $847 million (including grants) expenditures: $886 million (2000 est.)	revenues: $1.364 billion expenditures: $1.91 billion (2009 est.)	revenues: $74.92 billion expenditures: $86.26 billion (2009 est.)	revenues: $2.007 billion expenditures: $2.508 billion (2009 est.)	revenues: $78.7 million expenditures: $72.23 million (2005 est.)
Budget figures in percent of GDP	revenues:34.9% expenditures: 36.7%	revenues:17.5% expenditures: 24.5%	revenues:26.7% expenditures: 30.7%	revenues:12.7% expenditures: 15.8%	revenues:21.5% expenditures: 29.4%
Freshwater withdrawal Total (domestic/ industry/ agriculture) and per	total: 0.09 cu km/yr (33%/44%/22%) per capita: 333 cu m/yr (2000)	total: 0.8 cu km/yr (13%/1%/86%) per capita: 60 cu m/yr (2000)	total: 12.5 cu km/yr (31%/6%/63%) per capita: 264 cu m/yr (2000)	total: 0.3 cu km/yr (43%/17%/40%) per capita: 10 cu m/yr (2002)	n.a.

capita					
Area	430 sq km	274,200 sq km	1,219,090 sq km	241,038 sq km	12,189 sq km
Natural resources	petroleum, fish, natural gas	manganese, limestone, marble; small deposits of gold, phosphates, pumice, salt	gold, chromium, antimony, coal, iron ore, manganese, nickel, phosphates, tin, uranium, gem diamonds, platinum, copper, vanadium, salt, natural gas	copper, cobalt, hydropower, limestone, salt, arable land, gold	manganese, hardwood forests, fish

Source: The CIA World Factbook at https://www.cia.gov/library/publications/the-world-factbook/index.html (accessed April 12, 2010) and authors' own calculation

One of the outstanding differences between the five selected countries is the different stages of development revealed by the GDP per capita indicator as the spread is between USD 1,200 per capita (Euro 815) and USD 18,500 per capita (Euro 12,600). Differences in the size of the country and the total population are also recognisable. A further interesting fact is the composition of GDP showing that the selection covers countries in which agriculture (including forestry and fishery) provides a substantial contribution to GDP (Burkina Faso, Uganda and Vanuatu) as compared to Barbados and South Africa where the services sector is important as in developed countries. It can furthermore be concluded that the five countries are in different stages of development which is also reflected in the fiscal systems.

3.2 A short overview of the key aspects of the fiscal systems

Although there is no generally accepted policy of what the optimal share of tax revenue-to-GDP should look like in developed or developing countries, it can be concluded that this share is low in developing countries, such as Uganda and Burkina Faso, and it can be assumed that these countries are facing huge challenges in mobilising domestic funds for investments into infrastructure and other policy areas, such as health, education, etc. This is also reflected in the different fiscal systems of the countries:

- differences in the share of total tax revenues and expenditures to GDP;
- differences in the deficit (i.e. the difference between generating domestic revenues minus expenditures: for example, Uganda and Burkina Faso heavily rely on foreign donors to get a balanced budget for covering all expenditures and cannot be described as a financially sustainable policy.);
- differences in the taxation system – as widely discussed in the development literature developing countries, such as Uganda, Vanuatu and Burkina Faso, are relying on international trade taxes. This fiscal policy must be questioned in the context of globalisation and is secondly not in line with regulations / recommendations of the World Trade Organization (WTO). In this context it is also useful to mention that developing countries are forming trade blocks (some form of internal markets) and then international trade taxes are contradictory (examples are Uganda and South Africa which formed such trading blocs with neighbouring countries).

The discussion of two key aspects of an EFR, i.e. the environmental and fiscal dimension, show that there are some challenges developing countries are facing – namely addressing environmental challenges and the

mobilisation of domestic budgetary revenues. One of the issues at stake is how to generate additional revenues through domestic resources and three different options can be thought of:

- Increasing the efficiency in tax collection
- Increasing the tax rates of existing taxes
- Broadening the tax base – including the introduction of new taxes including environmental taxes.

Burkina Faso presents an interesting case for exploring possibilities for applying EFR and its instruments in the context of its overall fiscal system. Like many other African counties, it is heavily dependent on development cooperation for economic development and poverty alleviation. Burkina Faso's fiscal structure is characterised by low tax rates and a narrow tax base. The situation in Uganda is comparable.

Many of the challenges identified in the country case studies corresponds to findings drawn in the recent EC communication 'Tax and Development' (EC, 2010a and EC, 2010b). For example, narrow tax bases and the unbalanced fiscal system between direct, indirect and trade taxes are highlighted in Burkina Faso and Uganda. The idea of establishing new innovative financing concepts '*as new ways of raising public revenues, or of complementing them by leveraging private finance, as well as new approaches to already existing fiscal instruments* (EC, 2010c, p.7) can also be assumed to be of high political interest in developing countries. The document 'Innovative financing at a global level' published by the European Commission in 2010 includes a discussion of innovative concepts related to climate change. A whole range of instruments discussed in this report can be and are actually part of an EFR package (EC, 2010c). As highlighted in the country case studies, Clean Development Mechanism (CDM) measures as part of the flexible mechanisms under the Kyoto Protocol are already implemented and the introduction of a CO_2 tax is discussed in South Africa.

3.3 An overview of the use of EFR instruments in the five ACP countries

All countries have in common that they are applying some EFR instruments, mainly in form of taxes levied on energy use. Although the environmental taxes are principally implemented to raise revenues, they are classified as EFR instruments based on the widely accepted definition of an environmental tax as discussed in Section 2.3. Pricing instruments in form of user charges for water supply and to a lesser degree with regard to water sanitation / wastewater disposal and wastes are also in use as well as pollution taxes, such as plastic bag taxes (Uganda and South Africa). An overview of some EFR instruments implemented in the countries is shown in Table 2 below. A more detailed analysis can be found in the individual country case studies.

Table 2: EFR activities in the selected ACP countries

	Barbados	**Burkina Faso**	**South Africa**	**Uganda**	**Vanuatu**
Environmental taxes					
Energy products	Yes	Yes	Yes	Yes	Yes
Transport / vehicles	Mainly related to energy/vehicle fuels	Mainly related to energy/vehicle fuels	Yes	Yes	Yes
Other environ. taxes	Yes		Yes	Yes	Yes
User charges • water • sanitation • waste		Yes	Yes	Yes	
Feed-in-tariff (renewable electricity)			Yes	Yes	

Source: Country case studies

It must also be reported that South Africa and Uganda are applying product taxes levied on plastic bags or on incandescent light bulbs. Water-related taxes, i.e. addressing water quantity and water quality policy objectives, can also be found. The country case studies provide a comprehensive assessment of the situation in the five ACP countries thereby highlighting some of the shortcomings as well as the positive features with regard to the application of EFR instruments.

3.4 Overall experience and knowledge of the EFR concept

An interesting conclusion can be drawn when comparing the acquaintance and knowledge regarding the EFR concept between the selected countries. Definitely the most advanced country is South Africa where the government (in particular the National Treasury) is fully aware of the EFR concept as promoted in the publication of OECD DAC (OECD, 2005) and World Bank (World Bank, 2005). The EFR concept is implemented in the overall national policy framework as clearly shown in the Budget 2009/10 where different tax proposals are discussed under the 'environmental fiscal reform' concept[23]. The situation in other countries is in contrast where the promoted concept of EFR is not so well-known although some parts of the government are aware of the EFR concept. Below we are summarising the findings regarding the EFR proficiency of the countries:

Barbados

A fair amount of EFR elements are already being implemented in Barbados especially in the transport sector and through an environmental levy. Nevertheless, experience in Barbados with EFR-elements (like in entire Latin America and the Caribbean) is still limited so far.

Burkina Faso

Economic instruments for environmental management and conservation are poorly defined at best and in most cases largely inconsequential in meeting sustainable development, economic growth and poverty reduction objectives. The country has carried out fiscal reforms aimed at improving domestic revenue collection and is planning a major fiscal reform in 2010. At the same time, Burkina Faso is in the process of developing its new strategy for accelerated growth and sustainable development for the period 2011 – 2015.

South Africa

During recent years the concept of an environmental fiscal reform became well-known in South Africa. New environmental initiatives promoting sustainable development were proposed under the heading of environmental fiscal reform in the Budget 2009/10. The efforts undertaken by the National Treasury were relevant in identifying the role market-based instrument could play in supporting sustainable development in South Africa. The initial step for this development was a study commissioned by the National Treasury with the aim of providing a framework for orientation and of identifying criteria for the development and evaluation of environmental tax policy proposals thereby laying the foundation for the establishment of a coherent fiscal policy framework. In 2006, the National Treasury published the 'Draft Policy Paper A Framework For Considering Market-Based Instruments To Support Environmental Fiscal Reform In South Africa' reflecting its views. The intention of this policy paper is to facilitate open and frank discussions on the subjects of environmental fiscal reform. In this context it is important to highlight that stakeholders, such as academics and NGOs, are familiar with EFR and they could serve as an entry point to promote EFR in developing countries as part of the development policy. It can be said that the South African experience is probably the exception – at least currently - as the understanding of the EFR concept is very advanced and South Africa must therefore be understood as a frontrunner.

[23] See the country case study South Africa and the references given.

Uganda

Uganda makes use of a range of environmental taxes and charges but the overall concept of an environmental fiscal reform (EFR) as promoted by international organisations, such as the OECD and the World Bank, which are also forming the basis of this report, is not well-known. When analysing the situation with environmental taxes in Uganda applying the broadly accepted definition of an environmental tax (see Eurostat 2001), then it can be concluded that taxes levied on energy products, i.e. environmental taxes, are significant in terms of revenues generated and that the tax rates are rather on the higher end when compared internationally.

Vanuatu

Vanuatu does not have an established system of environmental fees and charges and is possibly foregoing some of the revenues that other countries have been raising for many years. Given the state and further development of the fiscal situation and of the environment and natural resources, there is a large potential for developing proposals for EFR-elements. Public revenue from taxes has increased steadily throughout the last decade and stood at 21% of GDP in 2009. At the moment tax revenue in Vanuatu is overwhelmingly dependent on a value-added tax and taxes on international trade (44 per cent and 38 per cent respectively in 2009).

3.5 EFR in the overall political context of the five ACP countries

This study could not explicitly assess the politics of the different countries and whether EFR is part of the short-, medium to long term overall policy goals. But our findings - based on literature reviews and interviews held in some of the countries – show that there are numerous reasons why EFR is not an integral part of national environmental or fiscal policies. The reasons are manifold and include:

- other political priorities: poor integration of environment into other policies such as economic policy, national budget plans, development policy, poverty-reduction and sustainable development; environment policy and ministries are generally weak;
- lack of human capital to carry-out enforcement of environmental policy/laws;
- inadequate knowledge of the economic value of environmental resources or services; social costs of environmental damages not known (e.g. Burkina Faso);
- poor coordination of national initiatives; and
- sub-national governance issues and existing legal and institutional constraints (e.g. decentralisation process is ongoing but not all aspects and policies of this process are equally undertaken and taken into account, i.e. decentralisation process must include political, administrative/institutional and fiscal decentralisation: for example, the process of redistributing authority and responsibility for providing public services from the central or national level of government to a sub-national and/or local level (administrative/institutional decentralisation) can only be successful if the process also includes fiscal decentralisation meaning that financial sources are at the disposal of sub-national governments so that they can fulfil their tasks in line with their allocated functional responsibilities.

3.6 EFR reform proposals

The intention of undertaking the country case studies was also to assess whether EFR reform proposals are currently discussed and underway within the country as well as to make some recommendation based on international experience. However, it must be stated that report did not intend to make any EFR proposals in detail which would have also not been possible considering budget and time constraints. Making proposals requires more detailed country-specific knowledge and expertise including data for assessing the implications of a new EFR instrument with regard to its economic, environmental and social consequences. The lack of undertaking of preparatory studies aiming to analyse the potential implications of an EFR instrument was mentioned in a report discussing reform proposals in Uganda. These studies are essential as

they will provide helpful information for making the EFR instruments more effective. The donor community may wish to support the carrying out of such studies by taking into account the experiences gained developed countries with this type of impact assessments. Some of the most interesting results of the country case studies are summarised as follows:

Barbados

Additional and increased environmental taxes could be introduced in Barbados especially in the energy sector and on fuel. For road and water supply infrastructure there is a need to further strengthen the cost-recovery principle. Additionally, land and property taxation could be reformed to exert additional environmental steering effects.

Burkina Faso

For guiding the introduction of more EFR-elements it appears reasonable to carry-out a detailed assessment of the existing MBIs for management of natural resources and their impacts on the environment, economy and society; to Identify country-specific challenges and criteria for EFR; to identify and assess priority sectors; to develop sector-specific EFR/MBI actions, to examine relevant policy and budgetary processes and propose EFR/MBI-specific actions; and to identify support, monitoring and revision measures.

South Africa

A whole range of EFR instruments are currently in use in South Africa and options for revising them by considering the three pillars of sustainable developments as well as for the introducing new ones are included in the draft policy paper and other studies commissioned by the Government of South Africa. Moreover, proposals for EFR policies are analysed qualitatively as well as quantitatively by different stakeholders including universities, consultancies and international organisations, such as the World Bank. The underlying concept of EFR – that the revenue and the expenditure side is studied in detail - is accommodated revealing that the multiple benefits of an EFR, i.e. environmental, fiscal/economical and poverty reduction, can be achieved simultaneously if the EFR is designed explicitly addressing the country specific conditions.

Uganda

Proposals of revising of existing or introducing new EFR measures must be closely linked to the Poverty Eradication Action Plan (PEAP). For instance, the PEAP anticipates that setting of water tariffs based on the full cost recovery principle is considered not being practicable and implying that the financing of water and sanitation investments is under the responsibility of the Government of Uganda.

Vanuatu

Vanuatu does not have an established system of environmental fees and charges and is possibly foregoing some of the revenues that other countries have been raising for many years. Given the state and further development of the fiscal situation and of the environment and natural resources, there is a large potential for developing proposals for EFR-elements.

3.7 Summary of the findings of the country case studies

The findings of the country case studies are showing a rather diverse picture of the situation with regard to EFR. However, this is of not surprising because of the large variation between the countries as already discussed above. However, the key finding is that EFR instruments are implemented in all countries but that the underlying concept is regularly not well known. The conclusion can be drawn – based on the discussion during the missions to two African ACP countries – that a widespread interest by governmental officials from

ministries of finance, environment agencies, etc. in getting additional information concerning EFR instruments and the underlying concept exists. The varying general conditions of the five countries are also reflected in the variety of EFR reform proposals. A proper functioning of the legal and institutional setting is the basic requirement for any EFR instrument (and any other policy measures) being effective. This aspect is of critical concern when discussing EFR proposals – either in the context of reforming already existing EFR instruments or implementing new ones – as institutional obstacles can impair the effectiveness of economic instruments, i.e. economic instruments are not a substitute for regulatory measures (i.e. command and control policies) implying that they '*also require strong institutions, adequate legislation, and effective monitoring and enforcement* (Huber et al., 1998, p.2)'. The country case studies do not assess these aspects in detail as this task is beyond the scope of this project also because of budget and time constraints. But it is clear and discussed in the literature that economic instruments are not of much help in a country where environmental regulations are not enforced and environmental agencies are weak[24] (see for example World Bank, 1998). EFR instruments that are proposed, promoted and can be administered and monitored by the relevant governmental institutions of developing countries and supported by the donor community, might have a better chance than a more 'top-down', exclusively external idea.

4 CONCLUSIONS

The purpose of this project is '*to provide an overview of which developing countries are undertaking EFR-actions* and it should also '*establish criteria to identify where there is a good potential for successful EFR support*'. These tasks were primarily undertaken by assessing the situation with regard to EFR in five ACP countries (Barbados, Burkina Faso, South Africa, Uganda and Vanuatu) and by a general and rather broad review of reports and studies assessing EFR actions globally. The countries were selected based on different criteria covering political, economical, fiscal, geographical aspects. As discussed above, the situation and development of the five selected countries differ widely guaranteeing that the findings of this project are incorporating very likely all facets of ACP countries and it is therefore fair to state that these findings can be generalised.

The findings and conclusions drawn are based on the country case studies but also on reports and studies published by a whole range of different institutions and stakeholders, such as World Bank, OECD, international financial institutions, EC, governments in developed and developing countries as well as from the civil society, such as NGOs and academics.

The overarching topic of this project is to assess *'**Options for promoting Environmental Fiscal Reform in EC Development Cooperation**'*. The findings of the study are showing that EFR activities are in place in all countries but that there are also big differences between the five countries analysed. At first glance, in particular in the African context, it seems that the use of EFR measures, such as environmental taxes and cost recovery measures, i.e. pricing tools for the payment of basic services, is somehow linked with the degree of the economic development of the country as South Africa is undoubtedly a forerunner in terms of applying the EFR concept in fiscal and environmental policy as compared to Burkina Faso and Uganda. This statement is not generally valid for all ACP countries as the country study Barbados clearly reveals as the use of EFR instruments is rather limited in this country which has the fourth highest GDP per capita income among the ACP countries.

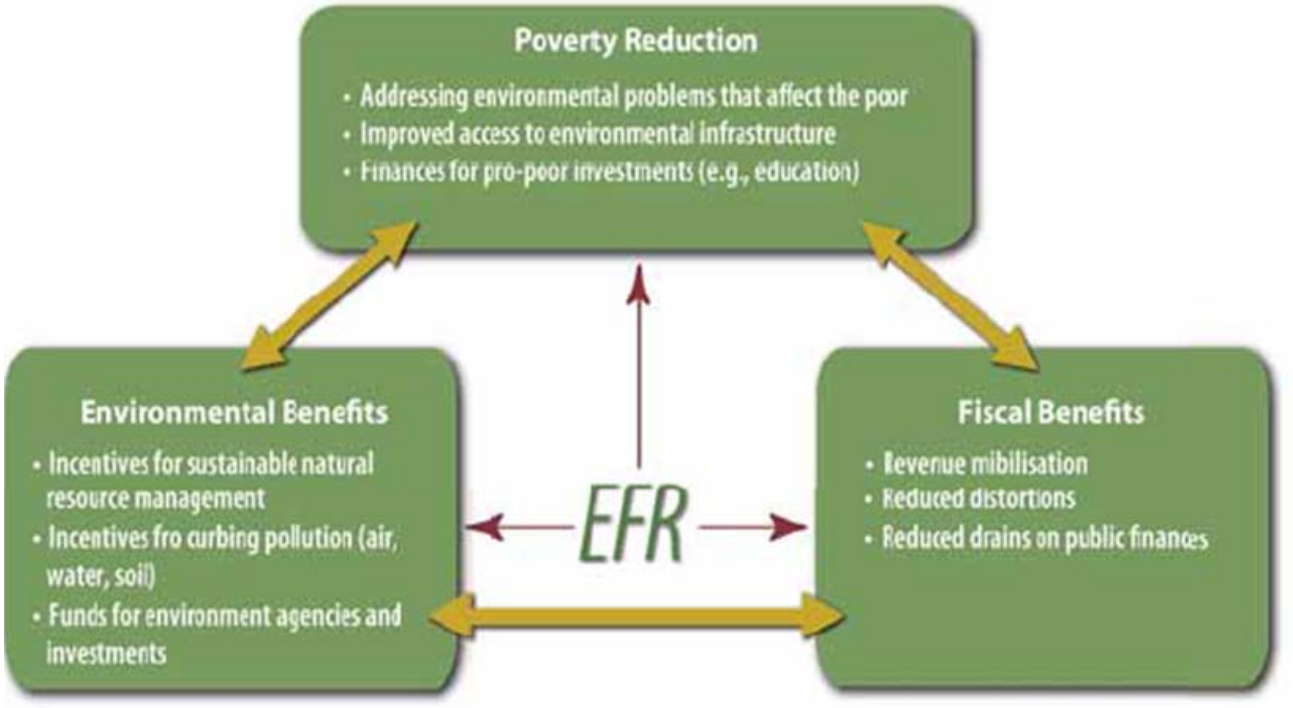
Because of budget and time constraints it was not possible to study in more detail the reasons why some countries are making more use than others. But from the political reality it is known that this is a phenomenon which does not only occur in developing countries but also in developed countries.

EFR is considered as a policy tool which can '*1) mobilise revenue for governments; 2) improve environmental management practices and conserve resources and 3) reduce poverty* (World Bank, 2005,

[24] See for example the discussion in the Pollution Prevention and Abatement Handbook published by the World Bank in 1998 (World Bank, 1998).

p.17)'. During project implementation it became obvious that it is important to stress these three benefits of EFR as being complements (see Figure 1), as it was not always clear that EFR is not only about EFR measures, i.e. environmental taxes, subsidy reforms, etc. During project implementation it became obvious that it is important to stress these three benefits of EFR as being complements (see Figure 1), as EFR was only equated with environmental taxes and subsidy reform, i.e. focusing on economic instruments for environmental policy exclusively and thereby losing track of the underlying principle. It was not taken into account that EFR can realise fiscal, poverty reduction and environmental benefits.

Figure 1: The Benefits of Environmental Fiscal Reform



Source: World Bank, 2005, page 18 (figure 2)

An interesting by-product of this project is that it starts to compile country data on environmental and fiscal policies. This process is not completed with this project but the findings of the project can definitely serve as the starting point for a more scientific analysis of the potential of an EFR. Again the lessons learned from South Africa seem to be useful to highlight here. The South African National Treasury started the process by commissioning a study aiming to provide a framework for orientation and identifying criteria for the development and evaluation of environmental tax policy proposals thereby laying the foundation for the establishment of a coherent fiscal policy framework. The next step was the publication of the 'Draft Policy Paper: A Framework For Considering Market-Based Instruments To Support Environmental Fiscal Reform In South Africa' by the National Treasury in 2006, reflecting its views. The intention of this policy paper is to facilitate open and frank discussions on the subject of environmental fiscal reform. EFR activities are not yet integral components of the Budget and academics are carrying out studies analysing the potential of EFR by assessing the environmental, fiscal and social implications of specific EFR designs (see the country study in the Annex). This approach laid the basis for developing reform proposals. Donors can clearly play an important role in supporting the start of this process as it was the case in South Africa, where the first study was financially supported by the UK government. Another example was the study in Uganda commissioned by the UNDP-UNEP Poverty-Environment Initiative providing an overview of the current situation in the application of EFR instruments in Uganda.

Mobilising domestic revenues by strengthening the domestic revenue base is important, in particular in developing countries, such as Burkina Faso and Uganda, where the national budget is mainly balanced by

financial flows from donors. Achieving the MDGs will require higher spending in many areas (social, health, education, environment, etc.), necessitating the need for more financial resources.

Our conclusions drawn from this project can be summed up as:

- the use of EFR instruments is widespread in ACP countries but differences between countries with regard to design, quality and quantity exist;
- based on the results of two out of the five country studies (Burkina Faso and Uganda) it can be stated that mobilising revenues by strengthening domestic revenue bases is important to create the fiscal space for funding the challenges of developing countries. Financial flows from donor countries increased but they are insufficient to fund the needs of developing countries; achieving the MDGs will require higher spending in many areas (social, health, education, environment, etc.);
- the underlying principle and concept of environmental fiscal reform (EFR) as promoted by international institutions, such as the World Bank, OECD and the European Union, as well as the donor community by highlighting the logical interconnections of environmental, fiscal and social features is not too widely known in ACP countries. However, this is not generally valid as several exceptions in the five countries can be found. However, it is crucial that any EFR reform proposal is 'owned' by the relevant country. But this does not mean that developed countries should not support the implementation of EFR in developing countries. As highlighted in the Uganda case studies, detailed economic, financial, social and environmental analyses of the implications of EFR proposals are seldom done and activities undertaking these analyses could be funded by donor agencies and thereby supporting countries in developing an efficient and equitable tax system. The findings of this project underline the conclusion drawn in the Pretoria Declaration of 2008 that '*there is no 'one size fits all' approach to taxation in developing countries* (EC, 2010b, p.16)'. Nevertheless, experiences gained with EFRs should be shared and disseminated between countries. A possible entry point for making the EFR concept known could be the African initiative on taxation / fiscal reform: 'Africa Tax Administration Forum' (ATAF) which was launched in Kampala/Uganda in November 2009. This initiative seeks to increase African countries' financial independence and contribute to economic development and good governance on the African continent '*by stimulating regional cooperation with the view of improving tax administration* (EC, 2010b, p.16);
- the divergence of the five selected countries which can be seen as a good reflection of the political reality of the rather heterogeneous group of ACP countries makes it very clear that a 'one fits all' EFR approach is completely ill-suited. Individual EFR instruments and / or a '*comprehensive EFR*' (OECD, 2005, p.35) must be designed by taking into account country specific conditions, i.e. economic, fiscal, social, institutional, legal frameworks must be carefully considered;
- fiscal instruments in environmental policy, such as energy and CO_2 taxes, emission trading schemes, etc., are attracting more attention since two decades and are introduced in more and more countries all over the world; this is discussed in a recent IMF Working Paper as '*the most important recent development that could be suggestive of the direction of future tax policy trends* (Norregaard and Khan, 2007, p.7)';
- innovative market based instruments summarised under the term of '*Payments for Ecosystem Services'* (PES) are attracting increased interest in ACP countries (for example Burkina Faso). These instruments are normally not often discussed in the context of EFR[25] Instruments, such as CDM measures. They could be further used by ACP countries to promote reduction in carbon emissions, simultaneously raising revenues and promoting sustainable management and use of natural resources e.g. soil, land and forests;
- the reform of user charges for water, sanitation and waste (cost recovery charges) is a necessity in all ACP countries, also in poorer ones. Social considerations (i.e. affordability issue) must be taken into

[25] PES is not mentioned in the two main reports promoting EFR in development policy which were published by the World Bank (2005) and the OECD DAC (2005).

account when designing these pricing tools. Experiences of cleverly designed user charges are manifold and can also be combined with funding instruments, such as output-based aid (OBA) schemes[26].

These findings correspond with the understanding that

> **EFR is an important part of the development policy tool kit**. EFR approaches and instruments complement and strengthen regulatory and other approaches to fiscal and environmental management (OECD, 2005, p.12 – highlighted in the original).

The ToR also request that the study should *establish criteria to identify where there is a good potential for successful EFR support by the EC within the context of the current generation of CSPs and RSPs (2007-2013)*. The criteria used in the selection process of this project – as discussed in Section 3.2 above and the inception report of this project in 2009 (see: http://www.foes.de/internationales/oefr-in-entwicklungslaendern/?lang=en, http://www.foes.de/pdf/20100518Draft%20Inception%20Report_03%2007%2009%20.pdf)

- are all important and should be taken into account when identifying potential countries in the context of future work on EFR funded by the EC or other donors. But it is self-evident that other criteria are also significant. One of the key criteria is the question whether there exists a political will by the government, in particular by government officials of the ministries of finance, environment and planning, promoting the application of EFR instruments. This statement seems quite trivial. But the political commitment of the government is crucial for any innovative policy reform. Consensus among stakeholders is another factor critical for the success of any new policy programme. Consensus should be also gained between governmental institutions at different levels including national, regional and local levels. This feature addresses the process of decentralisation describing how service responsibilities are assigned between different administrative entities.

Decentralisation is used as a synonym of the principle of subsidiarity thereby tackling the issue of how a state may be structured, i.e. which issues and services should be provided by the central/national government and which policy areas should be dealt with at the sub-national level, i.e. carried out by institutions at the regional, municipal/local level. Issues at stake are questions of how EFR and environmental taxes are administered and how revenues are allocated to the different levels. This is in particular of great interest in the context of PES. Other criteria important in this context are questions and issues whether the legal basis for introducing new EFR instruments is in place and whether the institutional capacity of the implementing agency is available and enforcement is guaranteed. But only a detailed analysis of the situation within a country can answer these questions.

The way forward

Based on the findings of the country case studies and the literature review as well as recapitulating the outcomes of the interviews with government officials and other stakeholders in the ACP countries, one could anticipate that a next step could be to further support the governments in developing more detailed EFR proposals. It must be clearly pointed out that the introduction of an EFR is a long-term process and not a one-off activity. The experiences gained with the discussions on ETR in Europe are a good indication (Speck and Jilkova, 2009). The way forward could be the funding of EFR-projects in ACP countries developing country-specific, country-owned and targeted activities at sectors, actions and priorities that are relevant and in line with the country's national policies by considering sustainable development/poverty alleviation objectives and on-going budgetary processes and reforms, among others. Learning from experiences on tax reforms in other ACP countries is encouraged, but the straight implementation of these experiences is often discouraged as environmental problems and challenges as well as socio-economic considerations are often very different. For instance, Uganda has huge challenges to cope with regarding the loss of biodiversity, land

[26] See for example Brook and Smith (2001).

degradation and to construct additional electricity generation capacity as a source of power and thus reduce the pressure on the environment, in particular under the consideration that more than 90 percent of total energy consumption is fuel wood. Furthermore, a successful EFR must take into account the political, legal and institutional country-specific conditions. An appropriate project approach is essential, one that combines in-depth country analysis, on-going consultations and discussions with stakeholders to refine and complement the findings, promotes coherence with other on-going activities in the country, and proposes clearly defined, targeted actions with clear modes of implementation and financial and other support to achieve the set objectives.

A way forward is also to copy the approach South Africa followed by developing a consistent fiscal policy framework in the context of achieving the objectives of sustainable development. As discussed in the South Africa country case study a project funded by the international donor community contributed to the process and the findings of this project were used by the National Treasury when publishing the 'Draft Policy Paper A Framework For Considering Market-Based Instruments To Support Environmental Fiscal Reform In South Africa' (National Treasury, 2006). The intention of this policy paper is to facilitate open and frank discussions on the subjects of EFR.

5 REFERENCES

- African Development Bank, 2007, African Development report 2007 Natural Resources for Sustainable Development in Africa, Oxford University Press, Oxford, UK.
- Brook P.J. and S.M. Smith, 2001, Contracting for public services: Output-based aid and its application, The World Bank Group, Washington D.C.
- Coady D., M. El-Said, R. Gillingham, K. Kpodar, P. Medas and D. Newhouse, 2006, The Magnitude and Distribution of Fuel Subsidies: Evidence from Bolivia, Ghana, Jordan, Mali, and Sri Lanka, International Monetary Fund (IMF) Fiscal Affairs Department, Working Paper WP/06/247, Washington, D.C.
- European Commission (EC), 2000, Integrating environment and sustainable development into economic and development co-operation policy Elements of a comprehensive strategy, Communication from the Commission to the Council, the European Parliament and the Economic and Social Committee, COM(2000)264 final, Brussels 18.5.2000
- European Commission (EC), 2007, Environmental Integration Handbook for EC Development Co-operation, EuropeAid Co-operation Office, Brussels, Belgium.
- European Commission (EC), 2009, Promoting Good Governance in Tax Matters, Communication from the Commission to the European Parliament, the Council and the European Economic and Social Committee, COM(2009)201final, Brussels.
- European Commission (EC), 2009a, Improving environmental integration in development cooperation, Commission Staff Working Document, SEC(2009)555 final, Brussels 21.4.2009
- European Commission (EC), 2009b, Supporting democratic governance through the governance initiative: a review and a way forward, Commission Staff Working Paper, SEC(2009)58 final, Brussels 19.1.2009
- European Commission (EC), 2010a, Tax and Development Cooperating with Developing Countries on Promoting Good Governance in Tax Matters, Communication from the Commission to the European Parliament, the Council and the European Economic and Social Committee, COM(2010)163final, Brussels.
- European Commission (EC), 2010b, Tax and Development Cooperating with Developing Countries on Promoting Good Governance in Tax Matters, Commission Staff Working Document accompanying the Communication from the Commission to the European Parliament, the Council and the European Economic and Social Committee, SEC(2010)426final, Brussels.

- European Commission (EC), 2010c, Innovative financing at a global level, Commission Staff Working Document, SEC(2010)409final, Brussels.
- European Environment Agency (EEA), 2005, Market based Instruments in Environmental Policy in Europe, EEA Technical Report, No8/2005, Copenhagen, Denmark.
- European Technical Assistance Programme for Vietnam (ETAPV), 2008, Interim Report Environmental Priorities for Vietnam Assessment of Current Environmental Levies in Vietnam,
- Eurostat, 2001, Environmental taxes – A statistical guide, Office for Official Publications of the European Communities, Luxembourg.
- Eurostat, 2007, Taxation trends in the European Union – Data for the EU Member States and Norway, Edition 2007, Luxembourg: Office for Official Publication of the European Communities.
- Green Fiscal Commission, 2009, Public Opinion on a Green Tax Shift, Briefing Paper Three June 2009, London, UK.
- Huber R.M., J. Ruitenbeek and R.S. Da Motta, 1998, Market Based Instruments for Environmental Policymaking in Latin America and the Caribbean Lessons from Eleven Countries, World Bank Discussion Paper Series, Washington D.C.
- Jacobs, B., 2009, The Electricity Market in Indonesia, in: OECD/IEA, 2009, Energy Prices and Taxes Quarterly Statistics First Quarter 2009, Paris, France, pp. xi-xxi.
- Koplov D., 2007, Chapter 4. Energy, in: OECD, 2007, Subsidy Reform and Sustainable Development Political Economy Aspects, Paris, France, pp. 93-110.
- Lueth E., M. Ruiz-Arranz, D. Coady and D. Newhouse, 2006, The Fiscal and Distributional Impacts of Fuel Subsidy Reform and Alternative Mitigating Measures, in: International Monetary Fund (IMF) Country Report No. 06/447: Sri Lanka: Selected Issues, Washington, D.C.
- Ministry of Environment and Natural Resources Sri Lanka, 2008, Development of Market Based Instruments for Environmental Management in Sri Lanka, Battaramulla, Sri Lanka.
- National Treasury, 2006, A Framework for Considering Market-Based Instrument to Support Environmental Fiscal Reform in South Africa – Draft Policy Paper, Tax Policy Chief Directorate, Pretoria, South Africa.
- Norregaard J. and T.S. Khan, 2007, Tax Policy: Recent Trends and Coming Challenges, International Monetary Fund, IMF Working Paper WP/07/274, Washington D.C.
- OECD, 2005, Environmental Fiscal Reform for Poverty Reduction, DAC Guidelines and Reference Series, DAC Guidelines and Reference Series, Paris, France.
- OECD, 2007, Subsidy Reform and Sustainable Development Political Economy Aspects, Paris, France.
- OECD, 2008a, Latin American Economic Outlook 2009, Paris, France.
- OECD, 2008b, Natural Resources and Pro-Poor Growth The Economics and Politics, DAC Guidelines and Reference Series, Paris, France.
- Schlegelmilch, K.: China and Other Asian Countries are Getting Ready to Catch up with Europe, in: Claudia Dias Soares, Janet Milne, Hope Ashiabor, Kurt Deketelaere, Larry Kreiser: Critical Issues in Environmental Taxation, 2010 (in print), Proceedings from the 10th Global Conference on Environmental Taxation (GCET) in Lisbon 2009.
- Speck S. and J. Jilkova, 2009, Design of environmental tax reforms in Europe, in: M.S. Andersen and P. Ekins (eds.): Carbon-Energy Taxation: Lessons from Europe, Oxford University Press, p. 24-52.
- UNEP, 2003, Energy Subsidies: Lessons Learned in Assessing their Impact and Designing Policy Reforms, Geneva, Switzerland.
- UNEP, 2004, The Use of Economic Instruments in Environmental Policy: Opportunities and Challenges, Geneva, Switzerland.
- World Bank, 1998, Pollution Prevention and Abatement Handbook, Washington D.C.

- World Bank, 2005, Environmental Fiscal Reform What Should be Done and How to Achieve it, Washington D.C.Annex: Examples for taxation or price-based instruments for environmental policy purposes in developing countries

ANNEX 1

EXAMPLES FOR TAXATION OR PRICE-BASED INSTRUMENTS FOR ENVIRONMENTAL POLICY PURPOSES IN DEVELOPING COUNTRIES

EFR instruments to desulphurise electricity generation in China

In China, electricity pricing measures have been implemented to reduce SO2 pollution. Since the end of 2004, the preferential grid price of desulphurized electricity has been Renminbi (RMB) 0.015 per kwh higher than non-desulphurized electricity. In addition, in 2006 the end-user price of desulphurized power was raised by an average of RMB 0.025 per kwh, to spread the cost of desulphurization between plants, the grid and end-users. Importantly, monitoring systems are also in place to ensure that these increases are enforced.

At the end of 2004, the total desulphurization capacity of China's power plants was 30 million kilowatts, incentivised by the preferential desulphurized electricity price. Desulphurization currently costs RMB 2.475 billion (US$ 344 million) annually, but the benefits are many. As a result, SO2 emissions are dropping by 1.8 million tons per year – already 70% of the target set out in the 11th Five Year Plan. These reductions have cut the cost of environmental damage by RMB 36 billion (US$ 5 billion). Savings have also been made for the power industry due to lower pollution levy payments, which have been reduced by RMB 1.08 billion (US$ 150 million), the current rate being RMB 0.6 per kg of SO2. In addition, desulphurization facilities worth RMB 8-13.4 billion (US$ 1-1.9 billion) have been built at a cost of RMB 300- 500 per kW, or US$ 42-70 per kW.

Source: GTZ: EFR Conference proceedings, 2008, p. 28, http://www.worldecotax.org/downloads/info/documentation_gtz-Workshop.pdf.

A well thought out EFR measure – the waste water levy in South Africa

Water is scarce in South Africa. In an attempt to improve the quality of the country's water resources, the South African Government, led by the Department of Water Affairs and Forestry, has proposed a levy on water effluent as part of its evolving water pricing strategy. It is envisaged that the Waste Water Discharge Charge System will apply to all registered point source emissions into watercourses. The proposed system has both a cost recovery and revenue raising component and a deterrent component (a tax/levy on effluent). The intention is to heavily penalise effluent loads over a certain concentration. Tax rates will be progressive, taxing the largest emitters highly to create strong incentives to reduce effluent loads. Some of the revenues will probably be used for remediation purposes. For implementation of the proposal to be successful, it is essential that the system is kept manageable particularly with respect to accurate monitoring of effluent loads and the granting of sufficient independence of regulating bodies. It must also be effectively integrated into the existing system of licensing and water use authorisations. Even if these factors are taken into account, it will be difficult to capture all forms of water pollution, particularly from diffuse sources.

Source: South African Treasury's draft policy paper on EFR: A Framework for Considering Market-Based Instruments to Support Environmental Fiscal Reform in South Africa, published in April 2006. Available for download at: http://www.treasury.gov.za.

Coalition-building to phase out unleaded petrol in Thailand

In 1991 the Government of Thailand – pressed by concerns about the seriously harmful effects of lead pollution on the population and the environment – embarked on an ambitious program to phase out the use of leaded gasoline. This was a complex task, impacting on many sectors. However, the Thai policymakers managed to surmount the obstacles encountered and successfully completed the process in four and a half years, one year ahead of schedule. A crucial success factor was reliance on fiscal incentives to favour unleaded gasoline. To encourage the switch to unleaded, the retail (pump) price was set at B 0.3 (USD 0.012) per litre less than that of leaded gasoline. This policy was introduced with a collaborative approach involving key stakeholders, such as government agencies, representatives of oil companies, and automobile manufacturers. Success was crucially dependent also on governmental institutions taking vigorous

leadership and managing all steps of the process, including setting target dates for implementing key actions, and continual monitoring and follow-up evaluation.

Source: http://www.oecd.org/dataoecd/14/25/34996292.pdf.

Successful public awareness campaigns in Indonesia

Fuel subsidies are highly politicised in Indonesia. Indeed, in 1998, riots in protest at fuel price rises ended in the overthrow of President Suharto. Bearing this in mind, the Indonesian government went to considerable lengths to both publicise and implement a targeted cash transfer program to compensate the poor for fuel price increases in 2005. The efforts made by the Indonesian government probably led to the absence of major public protest against the increasing fuel prices at this time. The cash transfer programme proposed by the government was announced in newspapers, brochures, pamphlets and on TV. However, drawing up and communicating compensatory measures is an ongoing process. In 2008, fuel price rise riots once again threatened the stability of the country.

Source: Environmental Fiscal Reform: The Results so Far: An Overview of Experiences with Environmental Fiscal Reform and revenue systems in forestry and fisheries sectors, Wageningen University, p.7 and http://www.economicinstruments.com.

Mobilising public support for electricity price rises in Ghana

When the Ministry of Mines and Energy in Ghana attempted to raise energy prices by 300 per cent, in May 1997, it was met with uproar. The president personally intervened to roll back the increase. As an alternative, parliament was summoned to set up a Public Utilities Regulatory Commission (PURC) in late 1997, which a year later was able to pass the same price increase with much less popular dissent. PURC staff partly attributes this to a concerted public consultation — including workshops, public forums and a media campaign — prior to raising tariffs. The key aim was to persuade consumers that the revenues generated by the price rise would be used to increase access to the poor.

Source: World Bank: Environmental Fiscal Reform. What Should Be Done and How to Achieve It, 2005, p.5 http://siteresources.worldbank.org/INTRANETENVIRONMENT/Publications/20712869/EnvFiscalReform.pdf.

Poor revenue collection in Tanzania

In the forestry sector in Tanzania, US$ 58 million are lost annually due to the under-collection of natural forest product royalties in the districts, and a recent study revealed that China imported ten times more timber products from Tanzania than appeared on the country's export records. In fisheries approximately 30% accruing to local government are collected. Awareness of this problem was highlighted by the 2004 Public Environmental Expenditure Review, which revealed: the potential of environmental resources to contribute to the public purse; significant underpricing and extremely poor revenue collection rates in fisheries and wildlife protection schemes; and relatively low levels of investment on environmental assets and improved revenue capture.

Source: http://www.worldecotax.org/downloads/info/documentation_gtz-Workshop.pdf.

Perspectives for EFR in the forestry sector in Nicaragua

In Nicaragua, on behalf of BMZ, GTZ has supported a participatory study on the framework conditions of EFR in the forestry sector, the current state of play in relation to EFR legislation, and perspectives for pursuing new EFR measures in the sector in the future. A participatory, multi-stakeholder process on good forest governance, in which the different sectors of society are well represented, has been fostered and a new forest policy, including financing mechanisms, has been developed. Based on that study and on the process of good forest governance, GTZ aims to work together with the partner country to support the reform of EFR in the Nicaraguan forestry sector to generate positive environmental effects – e.g. sustainable forest

management and / or a reduction in illegal logging – while gaining positive fiscal benefits through an increase in the public revenue base. Initial modifications of the public tax system have already been implemented. One of the outcomes has been a tax exemption system for investments in forest plantations.

Source: GTZ, 2007.

Case Studies: Transport control by Road pricing and congestion charging – Singapore, South Korea

Singapore: Singapore's cordon pricing measure, an Area Licensing Scheme (ASL), covers a 7.5 square km restricted zone in downtown Singapore. The restrictions are applied during the morning peak, between 7:30 and 10:30h. Access to the restricted zone is made possible through the purchase of daily or monthly licenses at post offices and kiosks outside of the zone. Since 1989, the access restrictions have been extended to include carpools and trucks (which were previously exempt under the scheme). Singapore's ASL has been successful in reducing motorised traffic within the zone by 50%, and private car travel by 75%. The speed of the traffic has also been increased from approximately 18 to 30 km/h. The scheme was complimented by the doubling of parking charges (Hook and Wright, 2002).

South Korea: Road pricing was introduced to the #1 and #3 Tunnels linking downtown Seoul (South Korea) to the southern part of the city. Both corridors experienced high volumes of private vehicle traffic, leading to heavy congestion. Private cars with three or more passenger, buses, vans and trucks were exempt from the 2,000 won charge (US$2.20), as was all traffic on Sundays and national holidays. The road pricing schemes resulted in a 34% reduction in peak period passenger vehicle volumes in the two years following implementation. Average travel speeds also increased by 50%, from 20 km/h to 30 km/h. As it was not an area-wide charging scheme, traffic volumes increased on alternative routes up to 15%. However, average travel speeds also increased as a result of improved flows at signalled intersections and increased enforcement of on-street parking rules on alternative routes (World Bank, 2002).

Source: Transport and Climate Change, Module 5e, Sustainable Transport: A Sourcebook for Policy-makers in Developing Cities, http://www.gtz.de/en/themen/umwelt-infrastruktur/transport/18708.htm

Review and revision of the pollution levy system (PLS) in China

China's Pollution Levy System (PLS) is among the most extensive in the world. It is an example of pragmatic and gradual implementation of EFR, in the context of a transition towards a market-based economy. The scheme began in 1979. Initially confined to only a few provinces, it has expanded over time, building on the lessons from implementation experience. By 1994, over USD 2 Billion had been collected from environmental levies. The system has been regularly monitored and amended in light of weaknesses identified, with respect to the level of the levies, enforcement difficulties and others as well as the tradeoffs faced by EPBS between reducing emissions and generating revenue. The PLS does not conform to a "textbook" example of environmental taxation. For example, fees are paid only for discharges exceeding a certain level, thus resembling non-compliance fees. In addition, the funds collected are used first to finance abatements expenditures by industry and for central administrative costs. While the fees are considered to be lower than marginal abatement costs, effectiveness of collection is linked to population density and income levels, suggesting that public pressure plays an important role in stimulating enforcement efforts. Despite uneven progress in different parts of the country, the system is generally considered to play an important role in containing pollution in China in a period of rapid industrialisation.

Source: *http://www.oecd.org/dataoecd/14/25/34996292.pdf*

ANNEX 2

OVERVIEW OF SELECTED EFR REPORTS

This list mainly covers reports published by international organisations. Academic and research reports are not included. The list is therefore far from exhaustive but provides an overview of the current status on EFR activities undertaken globally.

Environmental Fiscal Reform for Poverty Reduction, DAC Guidelines and Reference Series, OECD, Paris, France, 2005

Environmental Fiscal Reform What Should be Done and How to Achieve it, World Bank, Washington D.C., USA, 2005

Market based Instruments in Environmental Policy in Europe, European Environment Agency (EEA), EEA Technical Report, No8/2005, Copenhagen, Denmark, 2005.

plus earlier reports published by the EEA regarding this theme (see website www.eea.europa.eu)

Environmental Fiscal Reform: the results so far

An overview of experiences with Environmental Fiscal Reform and revenue systems in forestry and fisheries sectors

Rik Beukers

Internship Ministry of Foreign Affairs and Development Cooperation

Department Environment and Water

Wageningen University and Research Centre

< no date given >

Environmental Fiscal Reform in Developing, Emerging and Transition Economies:

Progress & Prospects

Documentation of the 2007 Special Workshop hosted by the Federal Ministry for Economic Cooperation and Development (BMZ) and the Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) GmbH; www.gtz.de/rioplus at the Global Environmental Tax Conference organised by Green Budget Germany (GBG, http://www.worldecotax.org/).

Environmental Fiscal Reform for Sustainable Development and Poverty Reduction

Workshop Proceedings and Country Case Studies

Eschborn /Bonn 2004

Deutsche Gesellschaft für

Technische Zusammenarbeit (GTZ) GmbH; http://www.gtz.de/rioplus

Reforming Forest Fiscal Systems to Promote Poverty Reduction, and Sustainable Forest Management

Proceedings of the International Workshop on October 19–21, 2003

World Bank, Washington, D.C.; http://www.profor.info

Generating Public Sector Resources to Finance Sustainable Development Revenue and Incentive Effects

Stefano Pagiola, Hiba Ahmed, Katharine Bolt, Kirk Hamilton, Muthukumara Mani, Roberto Martin-Hurtado, Priya Shyamsundar, Patricia Silva

Environment Department, The World Bank

WTP 538 – December 2002

http://www-wds.worldbank.org/servlet/WDSContentServer/WDSP/IB/2003/02/15/000094946_03020504033653/Rendered/PDF/multi0page.pdf

Economic Instruments for Environmental Management and Sustainable Development

Theodore Panayotou

International Environment Program Harvard Institute for International Development Harvard University, December, 1994

Prepared for the United Nations Environment Programme's Consultative Expert Group Environmental Economics Series Paper No. 16

Several reports published by

United Nations Environment Programme (UNEP)

Division of Technology, Industry, and Economics

Economics and Trade Branch

http://www.unep.ch/etb/publications/index.php

- The Economics of Environmental Degradation. Tragedy for the Commons? (1996)
- Instruments of Change: Motivating and Financing Sustainable Development (1998)
- Environmental Cost Internalisation: Case Studies from the Czech Republic, Egypt and South Africa (1998)
- Economic Instruments for Environmental Management: A worldwide compendium of Case Studies (2000)
- Energy Subsidies: Lessons Learned in Assessing their Impact and Designing Policy Reforms (2003)
- The Use of Economic Instruments in Environmental Policy: Opportunities and Challenges (2004)
- Economic Instruments in Biodiversity-related Multilateral Environmental Agreements (2004)
- Selection, Design, and Implementation of Economic Instruments in the Solid Waste Management Sector in Kenya: the Case of Plastic Bags (2005)
- Sustainable Use of Natural Resources in the Context of Trade Liberalization and Export Growth in Indonesia: A Study on the Use of Economic Instruments in the Pulp and Paper Industry (2005)
- The Use of Economic Instruments for Environmental and Natural Resource Management Training Resource Manual (First Edition 2009)

Conference proceedings of the International Environmental Taxation Conference by Oxford University Press and Richmond Law & Tax: Title of Series: ***Critical Issues in Environmental Taxation***, annually published starting in 2003

Handbook: Economic Instruments for Environmental Management of Malaysia

Economic Planning Unit, Prime Minister's Department Malaysia, www.epu.jpm.my and DANIDA, Ministry of Foreign Affairs, Denmark, www.um.dk; 2004

Experience with Market-Based Environmental Policy Instruments

Robert N. Stavins
November 2001 • Discussion Paper 01–58
Resources for the Future, http://www.rff.org

Making Budgets Green Leading Practices in Taxation and Subsidy Reform
International Institute for Sustainable Development (IISD), Canada, 1994

The Use of Economic Incentives in Developing Countries: Lessons from International Experience with Industrial Air Pollution
Allen Blackman and Winston Harrington, Resources for the Future, Discussion Paper 99-39,
May 1999

The Magnitude and Distribution of Fuel Subsidies: Evidence from Bolivia, Ghana, Jordan, Mali, and Sri Lanka
Coady D., M. El-Said, R. Gillingham, K. Kpodar, P. Medas and D. Newhouse
International Monetary Fund (IMF) Fiscal Affairs Department, Working Paper WP/06/247, Washington, D.C., 2006

The Fiscal and Distributional Impacts of Fuel Subsidy Reform and Alternative Mitigating Measures
Lueth E., M. Ruiz-Arranz, D. Coady and D. Newhouse
In: International Monetary Fund (IMF) Country Report No. 06/447: Sri Lanka: Selected Issues, Washington, D.C., 2006

Taxation and tax reforms in developing countries: Illustrations from sub-Saharan Africa
Odd-Helge Fjeldstad, Lise Rakner, Chr. Michelsen
Institute Development Studies and Human Rights, Norway
R 2003: 6, www.cmi.no/public/public.htm

A Framework for Considering Market-Based Instruments to Support Environmental Fiscal Reform in South Africa – draft policy paper
National Treasury, Tax Policy Chief Directorate, South Africa, April 2006
http://www.treasury.gov.za/public%20comments/Draft%20Environmental%20Fiscal%20Reform%20Policy%20Paper%206%20April%202006.pdf

Development of Market Based Instrument for Environmental Management in Sri Lanka
Ministry of Environment and Natural Resources, Sri Lanka, May 2008.

Market-Based Instruments for Environmental Policymaking in Latin America and the Caribbean - Lessons from Eleven Countries
Richard M. Huber, Jack Ruitenbeck,Ronaldo Seroa da Motta
World Bank Discussion Paper No. 381
World Bank, Washington, 1998

Economic Instruments for Solid Waste Management: Global Review and Applications for Latin America and the Caribbean
Inter-American Development Bank, December 2003, http://www.iadb.org/int/drp

Economic Instruments for Water Management: Experiences from Europe and Implications for Latin America and the Caribbean

Inter-American Development Bank, November 2003, http://www.iadb.org/int/drp

Strategy for the Use of Market-Based Instruments in Indonesia's Environmental Management

Asian Development Bank, Environment Division, Office of Environment and Social Development, December 1997

Greening the Budget case studies

The Energy and Resources Institute 2004

India

Green Budget Reform in Europe

Kai Schlegelmilch 1999, http://www.wupperinst.org/en/publications/entnd/index.html?beitrag_id=50&bid=84.

Greening Development Planning: A Review of Country Case Studies for Making the Economic Case for Improved Management of Environment and Natural Resources

Drakenberg, O. *et al.* (2009), *OECD Environment, Working Papers*, No. 5, OECD publishing, http://www.oecd.org/dataoecd/1/23/42069446.pdf (including a case study on Mozambique)

Choosing Environmental Policy Tools Theoretical Cautions and Practical Considerations

Clifford S. Russell and Philip T. Powell

Inter American Development Bank

Washington, D.C.

June 1996—No. ENV-102

International Experiences with Economic Incentives for Protecting the Environment

National Center for Environmental Economics, US Environment Protection Agency, Office of Policy, Economics, and Innovation, EPA-236-R-04-001, Washington, D.C., November 2004 – revision 1, January 2005

ANNEX 3

COUNTRY CASE STUDIES