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IDENTIFYING OPPORTUNITIES FOR GREEN FISCAL POLICY (GFP)

A STEP-BY-STEP GUIDE

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Part A: How to use the Green Fiscal Policy Guide

1 About this Guide

This reform-oriented practical Guide is a step-by-step approach to identify opportunities for green fiscal policy (GFP). The main target audience is policymakers and government officials from ministries of finance and other key ministries, regulatory bodies (environment, energy, water), but it may also be useful for revenue authorities, researchers, and other relevant stakeholders in Low- and Middle-Income Countries (LMICs). The Guide aims to provide practical hands-on advice on the process of identifying opportunities to implement GFPs to tackle environmental challenges while delivering win-win outcomes for economic, fiscal, or social policy priorities. The Guide looks primarily at the strategic elements of the GFP process, while providing some technical context. It aims to be accessible and easy to use and to provide practical tips and pointers for policymakers to build consensus using a strategic approach to green fiscal policymaking.

This Guide covers the three mechanisms of GFP, tax policies, subsidies and expenditure, as well as regulatory instruments with fiscal components (see part C for tables displaying examples for each mechanism). Environmental taxes reflect the key role of domestic revenue mobilization (DRM) in financing for development and contribute to addressing the challenge of constrained fiscal space faced by many LMIC governments. Green subsidies aim to support a just transition and have the potential to boost growth, creating further fiscal space, and regulatory instruments focus on reducing environmentally harmful behaviour. GFPs thus have the potential to be part of the solution to the challenge of tight fiscal space, while reducing environmental challenges within a country.

Besides GFP, complementary measures can further help to integrate green objectives within the broader fiscal framework, including green budgeting, environmental expenditure tracking, and the reform of environmentally harmful subsidies (e.g. fossil fuel subsidies). However, these measures do not form part of the present guide as they are not a direct mechanism of GFP.

Working through the six steps described in the Guide can provide a starting point for policymakers to evaluate opportunities for GFP and prepare the ground for subsequent in-depth analyses, feasibility studies, policy impact assessment, and the design, implementation, and monitoring of GFP instruments.

2 About Green Fiscal Policy

2.1 Why implement GFP

If well-designed and implemented within an appropriate governance framework, GFPs can be efficient and effective policy instruments, which help reduce the environmental harm of economic activities by steering sustainable behaviour and investment decisions while aligning financial flows with climate and environmental policy goals and – in some cases – mobilizing domestic revenue. In LMICs, GFPs in general and environmental taxes in particular have the potential to achieve multiple policy objectives and to deliver win-win outcomes for political decision-makers designing environmental policy instruments in a context of limited fiscal space and competing policy priorities. For this reason, many international organizations are supportive of GFPs and have promoted their implementation, e.g. European Commission, OECD, UNEP and other UN organisations, the World Bank, and IMF. Environmental taxes give economic actors – both businesses and individuals – flexibility to find the most cost-efficient response to a higher price on environmentally harmful activities. Green subsidies and

incentives can encourage take-up of new green technologies and overcome market barriers. Hybrid instruments can combine the respective strengths of regulation and fiscal policy to drive the transition to a greener, more sustainable economy.

This guide explores how policymakers in LMICs can draw on the strengths of GFP instruments in the specific context of their country, maximising their potential added value for the economy, society and the environment. The key principles of GFP and the advantages and disadvantages of GFP are described below.

2.2 Key Principles of GFP

GFP should be guided by the key principles listed below to ensure that fiscal measures not only generate revenue but also drive environmental sustainability and social equity. The main principles include:

- **The polluter pays principle**: The application of this principle aims at internalizing negative externalities so that market prices reflect the environmental cost of an activity. CO_2 taxes or charges on air pollution are examples.
- **Policy coherence**: Taxes and subsidies must align with broader economic, social, and environmental goals of a country. Furthermore, efficient policymaking calls for policies which work together, and do not contradict each other. Environmental taxes on fossil fuels alongside fossil fuel subsidies is a common example. At the same time, environmental taxes must be compatible with social welfare objectives.
- **Just transition**: GFP design must ensure a fair distribution of costs and benefits, particularly for vulnerable groups, to build social acceptance – e.g. by including compensation for low-income households or workers in carbon-intensive industries and by progressive tax structures potentially accompanied by direct transfers.
- **Transparency and accountability**: Clear rules, data gathering and monitoring of the impact are important for the effectiveness of a GFP as they allow e.g. for adjustments of the tax design or tax rate. Transparency further builds trust among taxpayers, investors, and international partners.

2.3 Brief description of GFP mechanisms – advantages and disadvantages

In essence, GFPs are governmental attempts to manipulate prices with the intention of influencing behaviour in favour of a positive environmental impact. GFPs include environmental taxes, green subsidies and incentives, as well as regulations[1] with fiscal components (sometimes referred to as hybrid instruments):

- **Environmental taxes** include carbon and energy taxes, vehicle taxes, air travel taxes, plastic taxes, water extraction or landfill / incineration taxes.
- **Green subsidies and incentives** include renewable energy subsidies, electric vehicle incentives, energy efficiency grants, sustainable agriculture support or tax credits.
- **Regulatory instruments with fiscal components** include emissions trading systems, deposit-refund schemes, environmental fines and fees, extended producer responsibility, or building codes with penalties / incentives.

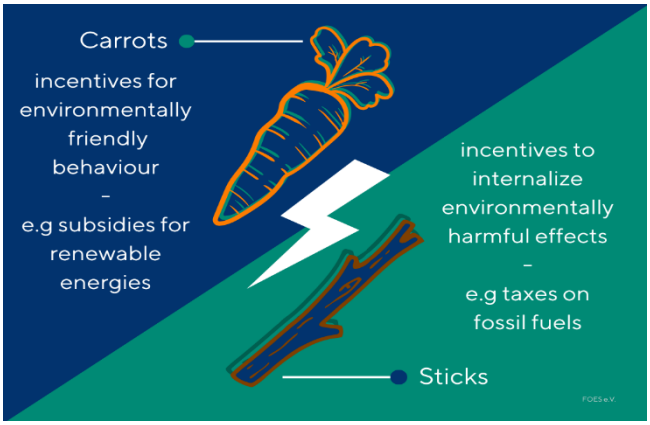
[1] Regulation, following the command-and-control principle, dictates how much of each pollutant can be emitted. If properly enforced, they can limit the amount of hazardous substance emitted. They might therefore be the preferable instrument when the risk of exceeding a certain level of emissions is very high.

See Part C for a more comprehensive lists of these instruments.

While taxes and regulations with fiscal components can be categorized as “green sticks” which increase the price of environmentally harmful behaviour, green subsidies can be characterized as “green carrots” to encourage environmentally friendly behaviour.

Providing “green carrots” is likely to be more attractive to policymakers, but it comes at a cost. In LMICs with low tax-to-GDP ratios and limited fiscal space, the cost of spending scarce money on green carrots and their budgetary impact should be weighed carefully.[2] While “green sticks” can be less politically appealing initially, as they are often met with strong opposition, research has shown that such measures can be more effective in motivating businesses to invest in cleaner technologies (Stechemesser et al., 2024). Nevertheless, successful environmental policy packages are likely to consist of both GFP carrots and GFP sticks (Stechemesser et al., 2024).

Figure 1: Carrots & sticks as key elements of GFP



Source: Green Budget Germany

Table 5 in chapter 2.2.3 provides several examples of “green sticks” and “green carrots” and possible combinations of the two.

Different GFP mechanisms have certain advantages and disadvantages that must be considered when designing GFP instruments. These may vary according to the country context. There is no definitive answer to the question which GFP mechanism is the more effective instrument to reduce pollution and emissions, as this depends on the sector and the country context within which a GFP is applied.

An empirical study based on 1,500 climate policies[3] implemented between 1998 and 2022 across 41 countries and six continents provides global evidence on climate policy effectiveness (Stechemesser et al., 2024). In general, the study finds that effects “are larger if a policy instrument is part of a mix rather than implemented alone” (Stechemesser et al., 2024, S. 6). Labelling, energy efficiency mandates, bans, or subsidies are found to be less effective as a stand-alone policy than in a policy mix. Taxation is the only exception, being the policy associated with large emission reductions, even as a stand-alone policy.

When broken down by sector in developing countries[4], subsidies stand out as being the most effective in the electricity sector, while regulation is found to be the most effective policy in the transport sector. In the industry sector, pricing shows the most synergy with other policies in developing economies. In the building sector, a broad set of instruments can be similarly powerful, but regulations have been found to dominate slightly.

[2] The Global Tax Expenditure Database provides an initial overview of how a country uses tax incentives and for what purposes.

[3] Market-based instruments, regulation and information policies.

[4] The study distinguishes between developed and developing countries.

The following tables provide an overview of key aspects policymakers should reflect on when designing GFPs:

Environmental taxes

Advantages	Disadvantages
Revenue generation: can provide stable funding for sustainability or budget needs	Regressivity risk: may burden low-income households
Efficient pricing: internalizes environmental costs, incentivizing polluters to reduce harm	Political resistance: new taxes are often unpopular
Flexibility: allows market actors to choose the cheapest way to comply	Competitiveness concerns: may increase costs for domestic industries
Behaviour change: shifts production and consumption patterns	Design complexity: setting the right rate is challenging
Administrative cost: tend to be very low, particularly if taxes use existing collection mechanisms	

Green subsidies and incentives

Advantages	Disadvantages
Market development: lowers entry barriers for green technologies	High fiscal cost: strains public budgets if not targeted and time-limited
Positive signal: attracts private investment	Risk of inefficiency: may fund projects that don't need support
Social acceptance: are usually popular measures as they reduce consumer costs	Potential distortion: may favour certain sectors unfairly
Innovation support: encourages development of clean tech	Difficulty of removal: due to subsidy dependence and resistance to reform
	Equity concerns: wealthier income deciles tend to benefit disproportionately from subsidies

Regulatory instruments with fiscal components

Advantages	Disadvantages
Targeted impact: sets clear limits for environmental protection	Administrative burden: requires strong institutions and control mechanisms
Revenue potential: auctions and fines raise funds	Risk of loopholes: weak enforcement reduces effectiveness
Behaviour enforcement: penalties deter non-compliance	Equity concerns: compliance costs may hit small players

As a general rule, a mix of complementary taxes, subsidies, and regulations has the potential to deliver the most effective GFP package. The mix will have to be tailored to local conditions and policymakers must balance these tools, mitigate trade-offs, and ensure social fairness to achieve ambitious climate and environmental goals. When designed well, GFPs offer a way to achieve multiple development goals for LMICs:

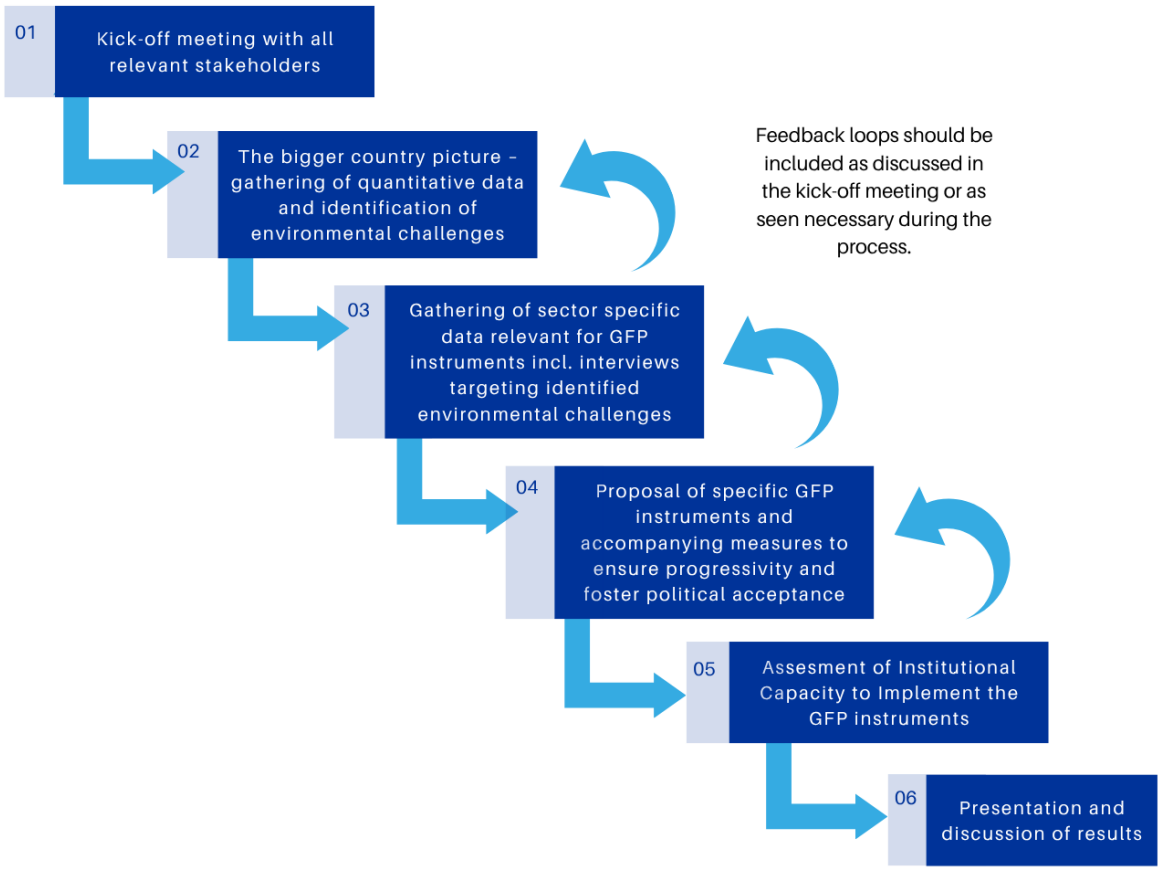
- **Mobilize additional public revenues** to fund accompanying measures[5], such as services, social programs, or environmental initiatives – particularly by taxing activities with high environmental impact often linked to wealthier individuals or foreign consumption.
- **Generate economic benefits**, by boosting clean and competitive domestic industries through incentives to invest in new technologies, stimulate local sustainable job markets, improve energy security, and attract green foreign direct investments.
- **Generate social benefits**, especially in public health, by incentivizing cleaner practices that reduce air and water pollution, leading to lower healthcare costs and healthier communities.
- **Reduce environmental degradation** through policies that promote sustainable land use, protect ecosystems, reduce pollution, and prevent disasters like floods or landslides.
- **Provide an alternative and/or complementary measure to international climate finance.** International climate finance may not be easy to access due to missing capacities in a country and/or high transaction costs. Furthermore, a country's climate change agenda should not depend entirely on external assistance but rely also on its own fiscal mechanisms to ensure sustainability of such agenda.

Part B: Steps to identify GFP opportunities

This guide takes a stepwise approach to the process of identifying opportunities to implement GFP. These steps must not necessarily be implemented in the order shown below, but can be implemented in parallel, or as elements in an iterative process. The process itself and the order of implementation may be amended to best fit the national country context. The **main steps** to identify opportunities to implement GFP are shown in Figure 2.

[5] Accompanying measures aim to reduce the burden a GFP instrument can put on citizens or companies without disincentivizing the objective of the GFP measure. Such measures can be linked to the environmental challenge (or not). If they encourage or nudge towards greener behavior, they can be considered a "green carrot".

Figure 2: Main steps of the process

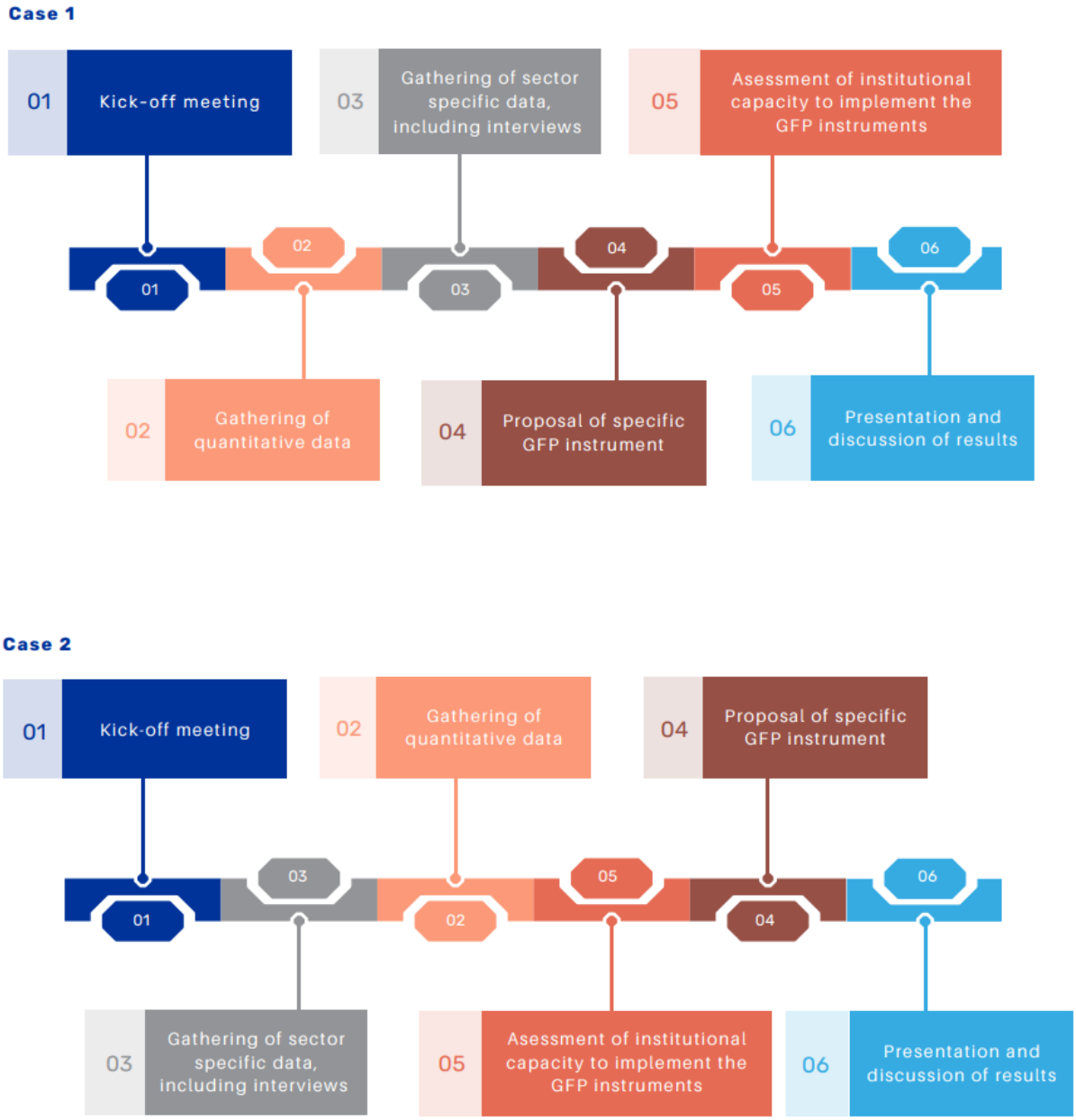


Source: Green Budget Germany

These steps are described in turn in the following chapters. The following illustrations show alternative ways of structuring the process.

Case 1 and 2 show that data collection does not follow a strict sequence. It can for example be useful to start with interviews involving interviewees from the political level to get an understanding of political priorities and concerns, then go into a deeper quantitative data research, outline GFP potentials, and discuss the feasibility of implementation in a second interview round with more technical people. Steps 2 and 3 are basically interchangeable or can happen in parallel.

Figure 3: Alternative designs of the process



Source: Green Budget Germany

1 Step 1: Kick-off meeting with all relevant stakeholders

To kick-off the process of identifying opportunities for GFP, a stakeholder meeting should take place to prepare the ground for and inform the exploration of GFP opportunities, and a Steering Committee for the GFP process should be created. All relevant stakeholders, e.g. representatives of the Ministry of Finance, and Environment, and Energy, as well as revenue and environmental agencies, should participate.

During the kick-off, agreement should be sought on:

- Objectives and deliverables of the exercise.
- Membership of the Steering Committee.

- Roles and responsibilities: which stakeholder/s will lead the Steering Committee? What will the roles and responsibilities of Committee members be? Who will be responsible for the analysis? Who will support the analysis and how?
- Scope: which elements shall be included in the analysis – taxes, fees and charges, tax expenditures, subsidies, environmental fines and penalties?
- Cooperation modalities: how should Committee members cooperate – regular meetings, ad-hoc meetings?
- Broad outline of research methodology: desk studies, interviews, focus group discussions?
- Process and timeline: key steps, feedback loops, presentation and discussion of results, review of preliminary findings, etc.
- Preliminary identification of possible priority sectors for GFP

Based on the kick-off results, those tasked with implementing the research and analysis should develop a detailed methodology, including timelines and responsibilities, for discussion and agreement within the Steering Committee.

Lessons learned 1: Kick-off meeting

Benchmarking and GFP contribution to Domestic resource mobilization (DRM)

Consideration of examples of GFP implemented in comparator countries can be helpful when discussing possible priority sectors and can help to inform preliminary discussions to identify potentials for GFP instruments.

It can be helpful to have several good practice examples to hand that underline the potential of GFP to not only address environmental challenges but also to mobilize domestic revenue during the stakeholder meeting.

- Revenues from India's General Services Tax (GST) Compensation Cess on coal derivatives – which replaced the Clean Environment Cess – are used to reduce the budget deficits of Indian States, with revenue flowing into the GST compensation fund. The cess raised revenue equivalent to 0.08% of GDP in 2019.
- In Mauritius, environmentally-related taxes referred to as the MID Levy – primarily a tax on fossil fuels, but also on plastic bags, bottles and cans – contributed between 12.5% and 14.7% of total tax revenue from 2009-2020.
- In Mauritania, environmentally related taxes on fisheries raised 9.4% of total tax revenue in 2019.

Source and further reading: (European Commission et al., 2023)

2 Step 2: The bigger picture – gathering quantitative data

2.1 Step 2a: Understanding a country's socio-economic development, fiscal, and budgetary situation

Gathering and analysing quantitative, internationally comparable data on the environment, the economy, and the fiscal position in the country can help create a bigger picture of the country and its central challenges, related to the environment and other aspects. This picture can inform the debate on what areas and under which framework conditions there are **opportunities for GFP measures to deliver added value and combine environmental with economic and fiscal policy goals**.

Note: The review of national strategic documents – e.g. Medium-Term Revenue / Expenditure Frameworks or Green Growth Strategies – or international assessments – e.g. Public Expenditure Reviews – are part of Step 3 in this Guide. However, in practice, Steps 2 and 3 should be carried out in parallel to provide a comprehensive understanding of the country context.

To assess the performance of an economy, a structured analytical framework is helpful to inform GFP development. It helps to ensure that policy objectives are a good fit with the country's overarching strategies and will support planned developments. The framework below integrates key macroeconomic dimensions, enabling a systematic evaluation of both current conditions and future outlooks. The approach provides a holistic lens through which macroeconomic indicators can be analysed and explains the relevance of macroeconomic data for GFP instruments.

The first part of this chapter (2.a) focuses on profile information to help understand a country's socio-economic development and fiscal situation. This data might be available at country level, e.g. within the Ministry of Finance, the Central Bank, or the Bureau of Statistics. However, these data sources are not always public. For this reason, table 1 focusses on **publicly available international data sources which can complement national data sources**. Time series data should be analysed to identify trends and to facilitate the inclusion of future developments in GFP design considerations. For example, inflation trends provide important information on the design of the tax rate and possible adjustment mechanisms (also see Step 4).

The second part of this chapter (2.b) discusses environmental challenges and opportunities for GFP. It outlines criteria that can be helpful in focusing on specific environmental challenges. Steps 2.a and 2.b are separated in this Guide for clarity, but they are closely interlinked and should take place in parallel in practice.

Table 1: Analytical framework on socio-economic indicators

Topic	Key indicators, relevance for GFP, data sources	Key questions
Growth & human development	GDP (per capita) development (absolute and relative), development of the Human Development Index score and the Gini-Coefficient (disaggregated by gender). ➢ GDP data are relevant to understand the economic development of a country and to consider implications of GFP instruments on economic growth. ➢ Inequality data are relevant to GFP, as a progressive design has to consider the impact of taxes, excise, or tariffs on the economically more vulnerable parts of the population. ➢ Gender considerations are important when designing GFP measures, as taxes can have implications for gender roles, unpaid care work, and gender bias in the tax system. **Sources:** World Bank, UNDP	What is the current growth rate and trend? Is economic inequality a major concern? Is gender inequality a major concern? How can GFP measures be designed to avoid a burden on the more vulnerable parts of the population?
Composition of the country's economy	Composition of GDP by sector and growth trends of individual sectors. • An understanding of the development of different sectors is important for the design of sector-specific GFP instruments, e.g. CO_2 tax for industries. If a sector is not yet a major GHG emitter, but is growing fast, it might be worth considering GFP measures that create incentives	Which sectors drive growth? Which sectors are growing fast?

	for the sector to develop on a sustainable pathway. **Sources:** World Bank, regional organizations (e.g. ATAF, CIAT, ASEAN Stats) regional development banks	
Inflation	Inflation trends and comparisons with neighbouring countries. Inflation data are important for the design of GFP instruments, for two reasons: ➢ Inflation data are important because most GFPs are ad quantum instruments; as a result, inflation reduces their share of total state revenues over time. Solutions to this challenge include tax rate escalators, indexation of GFP instruments, or the introduction of ranges of possible tax rates to allow for easy adjustment. ➢ High rates of inflation should also be considered when designing GFP instruments and predicting their economic and social impacts. Inflation-driven price increases, e.g. in the energy sector, may have indirect effects on the price of basic goods (esp. food) and services. **Sources:** World Bank, regional development banks	Is inflation growing? What are the drivers of inflation? Might GFP instruments contribute to inflation?
Public debt	Debt to GDP ratio and debt service trends, debt structure (domestic or foreign), as well reasons behind the debt. Brief description of debt strategy if any. ➢ Debt data are important as they give an indication of a country´s opportunities to subsidize climate and environmentally friendly behaviour. **Sources:** IMF, World Bank, UNDP	Is debt at manageable levels?
Trade	Trade statistics, outlining main import and export commodities over time. ➢ Export and import data are important, as they support the design of potential export or import duties and can also highlight sectors which might be targeted by GFPs. **Sources:** Observatory of Economic Complexity (OEC), UN COMTRADE	Are the main exports / imports environmentally relevant?
Employment	Labour force participation rate per sector (disaggregated by gender) ➢ Employment data should be considered when developing GFP proposals, e.g. key sectors vulnerable to the impacts of GFP may require specific targeted compensation measures. **Sources:** UNDP	What are the most important sectors for employment? Is the labour market tightening in certain sectors?
Demographic development	Demographic trends (absolute and relative growth rates), gender data, regional population density ➢ Demographic data are important to estimate the potential growth of environmental challenges, e.g. increasing population density in urban areas will increase generation of waste or drive air pollution due to increased traffic and congestion. **Sources:** UNDP	Are strong trends visible (e.g. urbanization or strong population growth)?

Source: Green Budget Germany

Table 2: Analytical Framework on the fiscal situation and existing fiscal & budgetary policies

Topic	Key indicators, relevance for GFP, data sources	Key questions
Taxes	Tax to GDP ratio and tax structure, tax gap ➢ A good understanding of the tax system is important for the design of GFP instruments. It is possible to link GFP revenue collection to existing well-functioning taxes and excises to reduce the administrative burden. This information also informs an understanding of which sectors already have a high tax burden, and whether the GFP proposal is administratively feasible. ➢ Knowing the tax gap and the reasons for it helps to design effective GFPs with potentially high compliance. **Sources:** OECD, TADAT assessments, regional organizations, such as ATAF (for African countries) or CIAT (for Latin America), GTED, IMF Subsidy data[6]	What is the trend of the tax to GDP ratio? What environmentally harmful tax expenditures exist? Is the tax system aligned with green transition objectives or do tax expenditures provide environmentally harmful subsidies thwarting green incentives/ green carrots? What is the social impact of existing taxes? What is the tax gap for different taxes and what are the reasons for it?
Customs	List existing customs duties ➢ A good understanding of the customs system is important for the design of GFP instruments, as a GFP can for example be connected to well-functioning tariff. **Sources:** World Bank, ATAF (for African countries), CIAT (for Latin America), regional trading organizations[7]	What environmentally related customs duties exist, and which are environmentally relevant? Are customs designed to address environmental harmful products? Are customs designed to support value creation in the country? Can GFP be connected to existing customs to reduce the administrative burden?
Public spending	Describe the public budget with a focus on environmentally relevant expenditures and subsidies, environmentally relevant tax expenditures, and climate related expenditures ➢ Understanding the climate and environmental relevance of public expenditure supports the selection of appropriate GFP instruments. ➢ It is important to investigate potential reforms of existing environmentally relevant subsidies and tax expenditures, focussing on those which are environmentally harmful. **Sources:** IMF, PEFA Assessments, OECD, national budgets	What is the share of budget allocated to climate mitigation and environmental protection? What are the trends in fossil fuel subsidies and their phase-out? Is the budget aligned with green transition objectives?
GFP instru-	List of all existing GFP instruments including their current tax rates and share of total state revenues over	What GFP instruments

[6] Please note that the definition of subsidies of the IMF goes beyond budgetary subsidies, such as expenditures and tax expenditures ("explicit subsidies") to further include implicit subsidies, such as the non-internalization of negative external effects of fossil fuels.

[7] Regional trade agreements often limit the ability of countries to implement tariff policies for within the trading bloc to facilitate trade integration and might discourage tariff policies to outside trading partners as well are ask for coordination among the trade bloc.

ments	time ➢ An overview of existing instruments helps to avoid duplications and to identify measures in need of reform. ➢ Knowledge of tax rates and the share of GFP revenue compared to total tax revenue will give an indication on DRM potentials of green taxes. ➢ If a GFP is in place but pollution or GHG emissions are still significant, it might not be effectively delivering on its intended environmental or climate impact. In such cases, the design should be re-examined and possibly reformed, e.g. by applying higher tax rates, introducing a tax escalator, considering indexation, or adjusting the coverage or administration of the instrument. Complementary measures to the tax should also be considered to increase its effectiveness. **Sources:** PINE Database	already exist? What is the share of environmental taxes in total revenue? Is it falling over time? Are GHG emissions / pollution going down in the area where the GFP is applied? Are compensatory measures effectively mitigating the regressive effects of green taxes?

Source: Green Budget Germany

This macroeconomic analytical framework ensures that GFP development is grounded in robust, integrated analysis. It enables policymakers and experts to assess trade-offs, identify synergies between economic and environmental goals, and design GFP instruments that drive sustainable and inclusive growth.

Lessons learned 2: Starting out on quantitative data

Data provision: start with the large, easy-access databanks

Especially if it is not yet certain in what area or sector the greatest potential for GFP will be, data collection and analysis should start by drawing on databases that provide easy access to a wide range of data. The **World Bank databank and ourworldindata.org** are excellent resources to start exploring data. The World Bank databank allows users to create accounts to customize data research on various countries, to compare countries with neighbouring countries and regional groups with reference to thousands of indicators, and to customize data to specific timeframes. Data can be visualized and exported in various formats. Ourworldindata similarly provides access to a huge amount of data on countries, with hundreds of indicators from all kinds of fields, easy comparison with other countries and groups, as well as graphic and data export.

Once specific focus areas have been identified, this preliminary research in these broader databanks can be extended to include more specific data.

Besides national data, use regional organizations for more specific or complementary data

If certain data is not accessible in the international or national databanks, e.g. on taxes, tax expenditure or customs, the data collected by regional organizations should also be explored. This can also be used for comparative purposes. Regional organisations not only often provide additional data, but can also help to put data into perspective, as they often include data on neighbouring countries. Examples include the **African Tax Administration Forum (ATAF)**, the **Inter-American Center of Tax Administrations** (**CIAT)**, or **ASEAN Stats**.

2.2 Step 2b: Understanding a country's environmental challenges

In general, it is not immediately obvious which environmental challenges can best be tackled using GFP. Therefore, it can be beneficial to use information both on quantitative data of a country's environmental situation (the status quo), as well as trends over time and the outlook, e.g. to investigate the pace of urbanization and population growth in urban areas.

To identify the environmental challenges with the greatest potential for GFP, it can be useful to structure the process as follows:

1. **Develop criteria for the selection of environmental challenges**. This can be based on quantitative data but should include the input of the government and experts, to identify in which policy fields there is openness and demand for GFP opportunities and in which there is none. In this regard, it is also important to remember that GFP is not always the most appropriate tool, especially in sectors with a large informal economy.[8] Interviews with stakeholders early in the process can help understand priorities for GFP, e.g. to prioritize environmental challenges harmful to human health, challenges with significant economic costs, challenges with a large impact on vulnerable groups, or challenges which relate to policy priorities. A set of possible criteria can be found in Table 4 in section 2.2.2.
2. **Gather quantitative and qualitative data** that shed light on a broad range of environmental challenges and their development over time. Some environmental challenges are urgent and demand immediate attention due to their direct impact on human health, such as air and water pollution. Others are growing in importance and will require sustained action in the coming years and decades. GFP can play multiple roles in addressing these diverse challenges. In some cases, the primary role of GFP is environmental, aiming to reduce pollution and emissions. In other cases, e.g. those caused by rapid urban population growth, GFP can help guide investment and secure revenue for public investments for a more sustainable development to reduce environmental harm and impacts on public health over the long term (but not in the short term).
3. **Ascertain the relative importance of environmental challenges and the potential of GFP** to address these challenges. The latter aspect is key, as some important environmental challenges, esp. those related to subsistence farming or deforestation for wood fuel, take place outside of markets. In such cases, peoples' behaviour is harder to influence using fiscal instruments. Governments may also choose to refrain from impacting vulnerable segments of the population with "green sticks". The potential of GFP to be environmentally and fiscally effective is generally higher for economic activities that are conducted through formal markets, where economic actors have fewer opportunities to evade GFP instruments and less interest in doing so. Therefore, weighing the importance of environmental challenges and the potential for GFP to address them can lead to a decision to address environmental challenges that might not be the most pressing today, but where the potential for GFP – to address the environmental challenge, to generate revenue and contribute to a higher quality of public finances – is the highest overall.

2.2.1 Data for the identification and selection of environmental challenges

For a general overview of all kinds of environmental challenges and their development over time – whether this relates to improvement or deterioration – the Yale Environmental Performance Index (EPI) is useful. The Yale EPI uses a combination of relative and absolute measures to assess environmental performance. It is therefore very important to complement the relative data from this source with hard data from other sources on specific emissions, use of resources, etc.

The following table provides an overview of typical environmental challenges, data sources on these challenges and indicators.

[8] E.g., practices of subsistence farming may have significant environmental impacts (e.g. deforestation). However, fiscal reforms might still fail to address these impacts if the economic activity if taking place informally or if there are more pressing political priorities (e.g. in the case of subsidized fertilizers provided to small-scale subsistence farmers, food security concerns are more important that the negative environmental impacts from the potential overuse of fertilizer.

Table 3: Data on environmental challenges

Environmental challenge	Data sources	Indicators (examples)
Climate change mitigation: GHG emissions (emissions from traffic, industry, agriculture, energy)	UNFCCC, Our World in Data, National Inventories	- emissions level - composition & growth of GHG emissions - emissions from land use change
Climate change adaptation: vulnerability and resilience	Notre Dame Global Adaptation Initiative, Climate Risk Index	- exposure to the negative impacts of climate change - economic readiness - ranking on countries most affected by climate change
Pollution prevention and control		
Air pollution (e.g. traffic and industry emissions, biomass fuels for domestic energy)	WHO, Our World in Data, Community Emissions Data System (CEDS)[9], EITI	- deaths per 100,000 people due to air pollution - rank of air quality related deaths within the top leading cause of death - particulate matter emissions
Climate change: GHG emissions (emissions from traffic, industry, agriculture, energy)	UNFCCC, Our World in Data, National Inventories	- emissions level - composition & growth of GHG emissions - emissions from land use change
Water pollution (fertilizers in agriculture, mining activities, industry sewage)	Our World in Data, FAO, EITI	- deaths per 100,000 people due to water pollution - rank of water quality related deaths within the top leading cause of death
Soil pollution	Yale EPI	- Nitrogen management efficiency (absorbed by crops) - Phospohorous surplus - Pesticide pollution risk
Sustainable use and protection of water and marine resources		
Water withdrawals (agriculture, industries)	Our World in Data	- Renewable freshwater resources per capita - annual freshwater withdrawals - GDP per cubic meter of freshwater withdrawal
Biodiversity loss	Yale EPI, UN SEEA EA, Global IUCN Red List, National red lists, CBD Online Reporting tool, IUCN	- trends in population and extinction risk of utilized species, including fisheries species - trends in pressures from unsustainable fisheries and aquaculture - coverage of marine protected areas
Protection and restoration of biodiversity and ecosystems		
Biodiversity loss	Yale EPI, UN SEEA EA, Global IUCN Red List, National red lists, CBD Online Reporting tool, IUCN	- existence of targets and action plans on biodiversity (see CBD online reporting tool - trends in population and extinction risk of utilized species, including species in trade - trends in pressures from unsustainable agriculture, forestry, fisheries and aquaculture - coverage of protected areas and Other Effective area-based Conservation Measures

[9] CEDS provides historical country-based emissions data on various emission species (SO2, NOx, BC, OC, NH3, NMVOC, CO, CO2, CH4, N2O). For the latest, see: https://zenodo.org/records/10904361

Deforestation (e.g. land use for agriculture and mining, extraction of fuelwood and charcoal, timber extraction)	FAO, Global Forest Watch, Our World in Data	- share of forest area to total land - forest area decrease - deforestation rate - spatial distribution of forest cover loss
Biodiversity loss	Yale EPI, UN SEEA EA, Global IUCN Red List, National red lists, CBD Online Reporting tool, IUCN	- existence of targets and action plans on biodiversity (see CBD online reporting tool - trends in population and extinction risk of utilized species, including species in trade - trends in pressures from unsustainable agriculture, forestry, fisheries and aquaculture - coverage of protected areas and Other Effective area-based Conservation Measures
Transition to a Circular Economy	Global consumption database, Raw materials information system, Our World in Data	- Raw material consumption - Recycling rate - Municipal waste management - Waste generated - Trade in secondary raw materials - WEEE (waste of electric and electronic material) collected - % of mismanaged waste

Source: Green Budget Germany

This guide does not include a scoring system or a similar approach for the selection of environmental challenges and sectors suitable for GFP measures, because the relative importance of specific criteria varies according to the country context. **Data gathered and their analysis can serve as a basis for the professional judgement of key stakeholders involved in the process, to identify priority sectors.**

For those environmental challenges identified as most relevant, it is helpful to not only describe the problem but also to **refer to existing government policies** trying to address the challenge, e.g. promoting electric vehicles, including any results of these policies.

Lessons learned 3: Selecting environmental challenges for different reasons

The selection of challenges can be based on very different criteria, such as **environmental, fiscal, social,** or **political priorities**.

- ***Fast pace of growth of urban populations***: In Ethiopia as well as in Nepal, air pollution from fast-growing traffic – cars, motorcycles, buses – are severe **environmental** challenges that will grow exponentially over time as cities become wealthier and more populous. In such circumstances, GFPs can help to foster the transition from dirtier internal combustion engines (ICE) to cleaner, more fuel-efficient options, and finally to non-emission vehicles – e-vehicles or bicycles – to reduce not just air pollution and improve human health, but also lower dependency on oil imports. Further, if combined with local manufacturing for e-vehicles, there can be an overlap with industrial policy goals as well.
- ***Distributional impacts***: GFPs in the tourism sector have potential to generate **socially positive** distributional impacts. Tourists, very often, have much higher ecological footprints and abilities to pay than the local populations. Typical examples include pricing of flight emissions to and from the country, departure taxes, overnight taxes for hotel stays, pricing of electricity and water tariffs for hotel guests, as well as entry fees to national parks, etc. GFP to address tourism-related environmental impacts can raise a lot of revenue, e.g. for conservation activities or to fund investments in the sustainable development of the tourism sector.

2.2.2 Criteria for the selection of environmental challenges

Table 4 below includes **criteria generally useful to identify priority sectors for GFP**. This table can be revised, adapted and supplemented with additional criteria, according to the country context.

Table 4: Criteria to identify environmental challenges and priority sectors for GFP

Does the challenge have severe impacts on human health and well-being, or significant external costs associated with environmental degradation? E.g., premature deaths linked to air pollution.
Is the challenge growing (exponentially) over time? E.g., growing industries might still have a small pollution impact on the environment or small emissions, yet are likely to grow to become a major emitter in the country
Does the challenge have a severe impact on economic development? E.g., production costs for certain industries can rise because CO_2 certificates that will have to be purchased, or due to competitive disadvantages for "brown" products, such as the Carbon Border Adjustment Mechanism (CBAM) of the EU.
Are market distortions or economic failures linked to, or causes of, the environmental problem? E.g., environmentally harmful subsidies for which reform proposals can be developed.
Is tackling the challenge a priority for government according to national development strategies and policies and/or international declarations? Are there international commitments in place to address the challenge? E.g. does the challenge have relevance for the targets of the Global Biodiversity Framework or the Paris Climate Agreement?
Are there positive international experiences in addressing this challenge through fiscal means? In particular, have comparator countries or neighbouring countries implemented GFPs to tackle this challenge?
Does the challenge have a disproportionate effect on certain vulnerable groups? In view of these impacts, is it politically feasible and appropriate to address the challenge with GFP? In an agricultural sector dominated by subsistence farming, in a country facing severe food insecurity, a GFP might not be the most appropriate instrument.
Which neighbouring countries are potentially useful allies for addressing the challenge? Might it be possible to collaborate on the introduction of a specific GFP measure, e.g. uniform higher customs duties on an environmentally harmful good?

Source: Green Budget Germany

Lessons learned 4: The political economy of environmental challenges

Experience on the selection of environmental challenges shows that:

- It can be **politically sensitive** to tackle pollution from important commercial sectors of the economy. E.g. in countries with a large mining sector, environmental taxes might prove unpopular, or difficult to implement in the face of powerful opposition.
- Some countries have **fiscal stabilization clauses** in place for e.g. oil and gas extraction that make the introduction of new environmental taxes or other GFP measures vulnerable to legal challenges; careful consideration of the costs and benefits of prioritizing these sectors should be undertaken.
- High polluting sectors, such as agriculture, might not be the best choice for the introduction of environmental taxes in cases where they may have disproportionately larger negative **impacts on vulnerable low-income groups** e.g. taxing fertilizers or pesticides may disproportionally affect subsistence farmers.
- Nascent industries might not cause a lot of greenhouse gases (GHG) in the present, but if they show a **strong upward trend**, they could nevertheless be interesting sectors for GFP measures to reduce health and environmental impacts in the future, e.g. cement production or manufacturing.
- **Strong political will** to tackle a specific environmental challenge or implement a GFP measure can be a good reason to investigate further, even though it might not address the most significant environmental challenge in the country, as the potential for implementation is higher.

2.2.3 Most relevant sectors for environmental challenges in GFP

Environmental challenges take different forms depending on the sector. In the **transport** sector, environmental and public health challenges are often related to the burning of fossil fuels and thus to air pollution and greenhouse gas emissions. Important drivers of fossil fuel consumption are rising incomes and urban populations having to rely on fossil fuel-based mobility. **Industrial activity** is often also related to energy use and fossil energy. In the **mining sector**, environmental impacts are varied, ranging from land-use change and degradation to water pollution to energy-related impacts. In the **agricultural sector**, focusing on environmental impacts from agricultural export goods – i.e. cash crops, such as cocoa, coffee and tea or shrimp – is a promising opportunity for GFP, as the demand for these goods is often driven by importing countries. Taxing these economic activities or applying export tariffs can be a way to shift part of the costs of environmental harm, such as deforestation or destruction of mangroves, to the consumers of these cash crops in other countries. Addressing the environmental impacts of **tourism**, such as GHG emissions from air travel or higher water and electricity consumption, with GFP instruments provides the opportunity to ensure that international tourists, who have a much higher ability to pay than the population on average, shoulder a fair share in fiscal revenue. This revenue can be earmarked for public investment in natural parks and nature restoration, from which the tourism industry can benefit in return.

Table 5: Examples of sticks and carrots in different sectors

Sector	"Green sticks"	"Green carrots"
Transport	• Higher taxes on older, more polluting vehicles • Implementing a strongly progressive "luxury" tax on expensive, high-polluting vehicles	• Subsidies, e.g. with low-cost loans for upgrading trucks to Euro IV standards • Scrappage schemes and provision of subsidies for new vehicle purchases • Reduced taxes or exemptions for the purchase of electric motorcycles
Carbon taxation	• CO_2 tax • Implicit carbon taxes, such as transport fuel excise • Carbon price floors and hybrid instruments (carbon emissions trading with price floors)	• Accelerated depreciation of energy efficiency and renewable energy investments • Loss carried forward for energy efficiency and renewable energy investments • Carbon bonus for households • Carbon tax revenue recycling to low-income households
Mining	• Mining Royalties Tax on minerals, e.g. on copper • Air pollution (SO_2) fees on smelters • Export taxes on unrefined minerals, e.g. on copper • Tax on mercury in gold mining	• Exemptions from GFP for artisanal small-scale mining • Air pollution fee rebate if companies install equipment to lower their sulfur emissions and provide air quality measurement • Reduced export tariffs on minerals, e.g. on copper to encourage domestic value creation
Plastics	• Plastics tax • Taxes on packaging • Plastic bag taxes	• Tax rebates for companies using recycled plastics • Reduced import taxes for recycling plants and plastic reduction technologies
Agriculture	• Export taxes on cash crops, especially if unprocessed • Taxes or import tariffs on fertilizers and pesticides • Higher export tariffs on raw agricultural products/lower or zero tariffs on processed goods	• Revenue recycling to support sustainable coffee and tea production • Exemptions on import tariffs or the value-added tax for certain machinery and equipment

Tourism	• Departure tax on international tourists • Eco taxes for overnight stays • Higher electricity tariffs or water pricing for hotels and guesthouses	• Revenue recycling to support sustainable tourism • Subsidies

Source: Green Budget Germany

3 Step 3: Qualitative review of sector-specific data

Based on the environmental challenges identified, data should be gathered as a basis for the development of concrete GFP instruments. At this stage, it is also important to develop an understanding of the overall strategic development and environmental framework and to draw up a list of all fiscal and regulatory policy instruments relevant to the environmental challenge. Additional data should include national reports and analysis by international organizations, civil society and academia, as well as interviews with key stakeholders and national experts.

3.1 Strategic framework and relevant policy instruments

It is necessary to get a good understanding of the main development strategies, green transition proposals, and national fiscal documents of the country.

Such strategies usually include:

- Country Vision 2050 or similar
- National Strategy for Transformation
- Green Growth Strategy
- Medium Term Development Strategy
- National Determined Contributions (NDC)
- Environmental Strategy

The most important fiscal documents include:

- National budget plan
- Medium Term Revenue Strategy
- Medium Term Expenditure Strategy

Alongside this strategic overview, it is important to draw up a list of policy instruments – fiscal, regulatory and information instruments - relevant to each environmental challenge. Finally, **transboundary issues** should be considered, such as regional economic communities (e.g. the East African Community), customs agreements, potentials for collective action on GFP with neighbouring countries, or issues such as cross-border water management. This process allows for identification of possible entry points for GFP, transparency on policy priorities, and a clear reference point when discussing concrete GFP instruments.

Lessons learned 5: Aligning strategic priorities with GFP proposals

Strategic fit

It can be helpful to consider which environmental challenges are also relevant for strategic priorities for countries when shortlisting environmental fields of intervention. In many low- and middle-income countries, tackling water scarcity is a strategic priority in Nationally Determined Contributions and National Adaptation Plans. GFPs which contribute to this goal are more likely to be met with political consensus. In some countries, GFP measures are clearly mentioned in sectoral plans and programmes. In Morocco, the 15-year, 3-phase National Waste Programme created momentum for

the introduction of a plastics tax in 2014, accompanied by a package of measures to improve waste management and boost recycling rates.

Political economy considerations

Strategic priorities might also arise due to environmental challenges moving into the political spotlight, e.g. due to protests or campaigns, leaving governments feeling compelled to implement an appropriate policy response. Widespread awareness of an environmental problem can also act as a driver for change. In Ghana, the 2013 Plastics Tax was introduced in an attempt to address the urgent and widely recognised problem of poor solid waste management and plastics pollution in the country.

3.2 Literature review

A literature review should gather information from existing analysis, assessments, and evaluations by government, international organizations, civil society, and researchers. These can include standard assessments such as (Climate) PEFA Assessments, Climate Public Expenditure and Institutional Reviews (CPEIR), TADAT Assessments, Public Environmental Expenditure Reviews (PEER), Fiscal Incidence Analysis (FIA), or analyses of specific questions relating to GFP, the budget, and the fiscal system. Selection of the literature should focus on those environmental challenges identified in the previous steps. The review can cover analyses of the national context and studies on comparator countries facing similar problems. Findings can be drawn on to inform the selection of appropriate GFP instruments.

3.3 Interviews and/or focus groups

A list of key stakeholders from within and outside government should be drawn up by the Steering Group. These stakeholders should be interviewed – or invited to participate in focus groups – to understand their policy priorities and concerns. These meetings can also be used to provide preliminary feedback on possible GFP instruments, which can be pitched in a general way during the meetings.

Table 6: List of possible counterparts for interview

- Ministry of Environment
- Ministry of Finance and Economic Planning / Development
- Ministry of Trade and Industry
- Ministry of Agriculture
- Ministry of Energy
- Revenue Authority
- National Environmental Management Agency
- Forestry Authority
- National Green Funds
- Industry representatives and business organisations
- Universities and research organizations with relevant expertise
- Civil Society Organizations working on taxes or in relevant sectors
- International partners / donors

A **generic questionnaire for interviews** focusing on the identification of GFP potential can be found in Part C (point 1).

Lessons learned 6: Broad engagement to foster consensus

Inter-ministerial collaboration
GFP is a cross-cutting issue, requiring buy-in from the Ministry of Finance as well as input from several sector ministries. Credibility and legitimacy of GFP is enhanced through broad governmental participation and support already during the preliminary stage of identifying potential GFP instruments. It is therefore important that key governmental stakeholders are involved from an early stage as members of the Steering Group set up under Step 1.

Stakeholder engagement
To understand the perspectives of diverse stakeholders and build consensus around GFP proposals, broad stakeholder engagement is essential. In South Africa, the introduction of the carbon tax in 2019 was preceded by several years of stakeholder engagement to build consensus and understand how to mitigate possible negative impacts of the reform.

4 Step 4: Specific GFP instruments and accompanying measures

Based on the data gathered in the steps above, GFP instruments can be developed and proposed to partners for discussion. **The necessary steps to propose a GFP instrument are to be found on the next page**.

Figure 4: Steps to designing and proposing GFP instruments and accompanying measures

Source: Green Budget Germany

4.1 Considerations for the identification of GFP measures

Just as for the selection of environmental challenges, several criteria can be used to inform the identification of possible GFP instruments. The following table provides questions to support the selection process. As above, there is no scoring system provided, public officials and other key stakeholders will have to use their professional judgment and their knowledge of the specific context to agree on suitable GFP instruments.

Table 7: Criteria for the selection of GFP instruments

Does the GFP instrument have the potential to reduce pollution / emissions?

- For all GFP instruments, define the desired level of pollution (the standard to be met), estimate the potential impact of the instrument in question, and consider whether supplementary measures are required for the standard to be met.
- These estimates will be informed by several considerations. In the case of taxes, this will include possible tax rates, the typical or average elasticity of demand for the good or service to be subject to the tax[10], trends using similar instruments in comparator countries, the availability of substitutions, and consideration of accompanying measures, e.g. subsidies for green technologies to incentivize transition.[11]
- For subsidies and incentives, answering this question also calls for information on the price, availability of substitutions, and the investment environment, to estimate the value of the subsidy required to encourage greener investment.

What is the potential impact of the GFP instrument on government revenues?

- Taxes and regulations with fiscal components have potential to raise revenue in the short-term and over time. Subsidies will lead to public spending rather than revenues in the short- to medium-term but have the potential to support economic development that in turn can lead to higher revenues over the medium- to long-term.
- A key consideration when estimating revenue is to consider the potential of the measure to rapidly reduce pollution. If an environmental tax can be expected to bring about a quick drop in pollution emissions, potential to raise revenue will be low, as taxpayers will respond quickly to the tax and avoid it by changing their behaviour. For example, taxes on plastic bags bring about rapid behavioural change as substitutions are easily available; such taxes do not raise revenue, except in the short-term. Conversely, carbon taxes are likely to be a relatively stable source of revenue in the medium term, because the transition away from fossil fuels is gradual. The transport sector is a case in point: ICE vehicles dominate in the vast majority of countries, and the transition to electric vehicles is slow. In this context, when designing GFPs, it is important to find a balance between reducing environmental damage and mobilizing revenue (for more information on revenue mobilization, elasticities, and tax rate setting, see Box 2).
- **Subject to availability of resources**: Where data availability allows, and modelling capacities (or funding for outsourcing, if not available in-house) are available, it would be very helpful to not only estimate changes in government revenues but also estimate impacts on cost of public services (e.g. reduced health costs and benefits expressed in economic terms, e.g. productivity gains), creation of employment (green vs. conventional jobs), and green economic development (green growth).

How can the GFP instrument be expected to have impacts on different income groups in the country?

- Please estimate the impacts of GFP measures on lower income groups, drawing on household surveys to identify vulnerable groups, literature reviews, checklists of common impacts, historical

[10] Elasticity refers to how demand for goods and services responds to the introduction of an environmental tax: if demand is responsive to changes in price, it is elastic, if demand is not responsive to price increases, it is referred to as inelastic. If elasticity of demand is low – i.e. if economic actors cannot easily change their behaviour and switch to cleaner practices or technologies – then the potential to reduce pollution is also low, but the potential to raise revenue might be quite high.

[11] Ideally, before implementation, CGE or econometric modelling of the economic, fiscal, social and environmental impacts of a GFP measure should be conducted. However, this is not likely to be feasible during an exercise to identify opportunities for GFP, and may prove challenging later if technical, human and/or financial capacity is limited.

analysis, scenario analysis, and experience in comparator countries. Taxes on meat, fertilizers or pesticides, or on domestic services such as electricity and water, tend to have a greater impact on lower income groups and can exacerbate inequality.

- The Carbon Price Incidence Calculator can support this step for carbon-energy related tax bases and fossil fuel subsidy reform.
- Green **subsidies and tax expenditures** targeting domestic consumption, such as incentives for electric vehicle purchase or for rooftop solar, tend to be taken up more by higher income groups and those participating in the formal economy. Therefore, such GFPs tend to deliver disproportionate benefits for the wealthy. While this may be unavoidable in some circumstances – e.g. due to the need to create a market for electric vehicles or to boost renewable energy deployment – this should be taken into consideration e.g. when introducing green tax incentives.
- Similarly, it is important to note that wealthier income groups benefit disproportionately from environmentally harmful subsidies (see e.g. Coady et al., 2015).

Can mitigation measures be introduced that address potential negative equity impacts?

- Please reflect on the distributional impacts identified above and ascertain whether feasible mitigation measures can be put in place to compensate or mitigate them. Where possible, these mechanisms should deliver transformative outcomes or co-benefits for green economy, e.g. measures to reduce gender inequalities, low-cost loans for renewable energy, or free distribution of green technologies or clean cookstoves.
- Mitigation measures should not undermine the price signal resulting from a tax or other GFP measure, e.g. measures should not reduce the price of energy for vulnerable groups or industries by exempting them from a tax, fee or charge, unless there is no alternative feasible means of mitigating the effects of the price increase, such as targeted cash transfers, or a climate bonus.
- Lifeline tariffs for domestic utilities, e.g. free provision of a specified volume of electricity or water consumption, can be considered if alternative mitigation measures are not feasible.

Will the GFP instrument have a significant impact on crucial macroeconomic indicators?

- Please estimate the impacts of GFP measures on inflation and employment; e.g. studies on the European Emissions Trading System (EU ETS) show that productivity of firms has increased under the EU ETS while emissions could be reduced (Gupta et al., 2021).
- Reflect on potential impacts of GFP instruments on competitiveness, including trade balance. For example, the introduction of a CO_2 tax can reduce the pressure on exports facing the European Carbon Border Adjustment Mechanism (CBAM)[12] and the European Corporate Sustainability Reporting Directive (CSRD)[13]. Reduced emissions in local industries will provide a competitive advantage over more carbon intensive activities in other countries and can foster exports.
- Consider the impacts of GFP instruments and accompanying measures on public spending and public debt.
- Please consider accompanying measures to GFP instruments that mitigate potential impacts on macroeconomic indicators, such as using (parts of) the revenues raised with the GFP to support value creation (e.g. of export crops) or infrastructure development within the country, boost productivity, or create new employment. (Davidson-Chime, 2023) shows that economies become more resilient to energy price shocks as they transition to renewable energy sources.

Are there major political economy concerns attached to the GFP instrument?

[12] The CBAM applies a border tax to direct manufacturing-related emissions of certain imported goods such as cement, electricity, fertilizers, hydrogen, iron and steel, and aluminium, as well as to other intermediate products and downstream products. It is designed to ensure that the same CO_2 price is paid for the GHG emissions of imported goods as in the European Emissions Trading System (EU ETS). Companies importing to the EU will need to register in the CBAM register in 2025, and starting 2026, only companies that are registered in the EU's CBAM register will be allowed to import the goods mentioned above into the EU.

[13] Companies in Europe will have to report under the CSRD on their Scope 3 GHG emissions (indirect emissions that occur along a company's value chain but are not directly controlled by the organization) in the near future. This will put pressure on companies in a non-EU country that trade with companies based in the EU to also report on their emissions.

- Please predict the likely political acceptance of key stakeholders and consider measures to address potential resistance and build consensus, e.g. tax rebates or repurposing of subsidies.

Can accompanying measures lead to significant economic benefits (economic multiplier)?

- Please consider proposing revenue recycling measures benefitting the economy, e.g. a proportion of revenues mobilised through GFP can be earmarked for infrastructure investments in selected sectors, which in turn can increase value creation, can create employment in construction, and boost electrification in rural areas.

Can accompanying measures support further environmental benefits?

- Please consider proposing revenue recycling measures benefitting the environment, such as financing for sustainable forest management, or for the installation of enhanced pollution monitoring technologies.
- E.g. Costa Rica's Payment for Ecosystem Services (PES) programme – an environmental programme to incentivize carbon sequestration and storage, water purification, forest protection and conservation, biodiversity, and scenic beauty – is financed using revenues form of a 3.5% tax on fuels, which is equivalent to a carbon tax since Costa Rica does not use any coal and all fuels are imported (Umana 2024).

Can the GFP instrument be rolled out effectively?

- Please consider the institutional capacity to implement a GFP instrument, e.g. whether collection and administration mechanisms for the GFP are already in place to enable efficient implementation.
- Consider proposing revenue recycling measures benefitting the administration, e.g. a proportion of revenues mobilised through GFP can be earmarked to support the digitalization of the revenue authority.
- Reflect on the activities necessary to build consensus and political acceptance for the instrument.

Source: Green Budget Germany

Box 1: Data challenges

The data requirements in LMICs relating to GFP include level and cost of pollution and emissions, acceptable levels of pollution (the standard of pollution desired), and information on elasticity of demand of taxed goods and services. GFP implementation also calls for information on administrative feasibility, distributional and competitiveness impacts, etc. In many countries, such data and information might be distributed between sectoral ministries and agencies, subnational governments, research institutions, and civil society organizations. Structures for data sharing tend to be limited and coordination fora are often lacking. Capacity to analyze data for GFP or use data for fiscal or environmental policy modelling is also often limited.

Solutions include better coordination between ministries, departments, and agencies to collect and manage data, inter-ministerial and inter-agency agreement on GFP objectives, and development of analytical capacity. GFP design can help to address some data issues, e.g. taxing proxies in cases where direct monitoring is not possible, such as setting pollution tax rates in line with inputs and installed pollution treatment technologies.

Source: Green Budget Germany based on (Occhiali, 2023)

Box 2: Setting the environmental tax rate: possible approaches, elasticities, revenues

Environmental tax rates are usually set in one of two ways. In the first instance, environmental taxes were conceived of as **"Pigouvian" taxes**, where the tax rate on environmentally damaging activities is set equal to the marginal social damage costs caused, as originally proposed by Alfred Pigou. However, calculating the value of marginal social damage costs is difficult, and results of such calculations are often disputed.

A more practical approach, known as the **Standards and Pricing procedure**, is to set an environmental tax rate at a level (the price) that can be expected to deliver a particular environmental objective (the standard). Once the tax has been introduced, the tax rate can be reviewed and adjusted until the standard is met. If further environmental improvements are required, the tax rate can be adjusted in line with a new standard.

When setting the tax rate using the Standards and Pricing approach, in some cases a low tax rate may be sufficient to bring about behavioral change. If alternatives are readily available at a comparable price, economic actors can be expected to respond quickly, even to a small price differential. In Thailand in 1991, within 30 days of a low tax being introduced on leaded petrol, 30% of total fuel consumption had switched to unleaded fuel. Demand for fuel was elastic, i.e. demand was responsive to even a relatively small change in price. Such taxes typically result in a short-term rise in tax revenue, followed by a fall in revenue as consumers and producers respond to the tax.

Some environmental taxes are levied on goods and services with a relatively low **elasticity of demand** – i.e. on goods and services where substitutions are less readily available. In such cases, the tax will be less environmentally effective, at least in the short term, while the revenue stream from the tax will be more stable. For this reason, e.g. energy or carbon taxes, or taxes on resources, have the potential to raise tax revenue over the medium term. It should be noted however that elasticities change over time – as cleaner technologies are mainstreamed and their prices fall over time, substitutions become more readily available – resulting in a more environmentally effective tax but a fall in revenue. Enhancing access to or **raising awareness** of substitutions can enhance the environmental effectiveness of a tax.

Source: Green Budget Germany, further information: (ATAF, 2024; Cottrell & Falcão, 2018)

4.2 Challenges and mitigation measures for GFP instruments

To identify feasible opportunities for GFP to be introduced, it is important to analyse potential challenges to the GFP instruments under consideration and propose possible responses and strategies to build consensus.

Challenges might include:

- Political economy aspects, e.g. powerful lobby groups which might oppose GFP, or disproportionately negative impacts of the GFP on vulnerable groups.
- Inadequate administrative capacity, e.g. tax administrations might not have experience implementing GFP.
- Lack of inter-ministerial coordination, e.g. the data needed to calculate the tax burden is likely to come from sectoral ministries – such as the concentration of certain chemicals in water basins, or CO2 emissions from certain industries (see Box 1).
- Monitoring gaps, e.g. pollution emissions might not be monitored regularly or with appropriate technologies.
- Implementation costs of GFP, e.g. the collection of necessary additional data might induce costs, or GFP instruments that cannot be tagged on to existing taxes or excises might incur administrative costs for collection mechanisms.
- Governance challenges, e.g. in countries with a large tax gap and low tax administration capacities, introducing new GFP measures can create an additional challenge

Mitigation measures can include:

- Linking GFP to existing fiscal policies to reduce administrative burden and facilitate revenue collection.
- Earmarking revenue to compensate vulnerable groups.
- Implementing green incentives and subsidies to support transition to greener technologies.
- Stakeholder consultations to understand perspectives and to inform the design of GFP measures and instrument mixes – such as taxes combined with green subsidies and labelling – which have the potential to address stakeholder concerns and help build political consensus.
- Revenue recycling, e.g. to cover administrative costs, finance investments in transition technologies, or cover the cost of monitoring pollution emissions.
- Depoliticizing price increases, e.g. by introducing tax rate escalators, indexation of tax rates, or establishing an independent agency responsible for pricing regulation, as the government did in Ghana in parallel to fossil fuel subsidy reform, a National Petroleum Authority was created to regulate diesel, gasoline and Liquid Petroleum Gas (LPG), gradually liberalize energy prices, and depoliticize the price-setting process. The NPA was mandated to establish a formula for adjusting fuel prices and review the oil price twice a month (Whitley & van der Burg, 2015)

Lessons learned 7: Challenges and mitigation measures

Misalignment of revenue and expenditure (policy incoherence): Subsidies or tax expenditures often undermine the efforts in a country to raise the cost of environmental pollution and implement the polluter-pays-principle. Examples include Ethiopia's fossil fuel subsidies or the Philippines' tax expenditures on coal but can be found in almost every country. It is important to consider how to address such misalignment by analysing and if politically feasible, reforming existing subsidies and tax expenditures harmful to the environment. While analysis is important, political action might be difficult, as **rationalizing subsidies is a sensitive issue** in most countries. Reducing subsidies in the energy sector can lead to political turmoil and needs due consideration on process, communication, and compensation measures (including cash transfers to lower income groups).

Indonesia successfully reformed its fuel and electricity subsidies in 2014/2015. The subsidies accounted for 24% of the national budget, while tax revenues were less than 11%. The reform led to a reduction in fuel subsidies by 19 million US dollars in 2014/2015. This allowed the budget deficit to be reduced by 13%. As compensation measure to relieve poor households affected by the resulting price increases, the Indonesian government used the revenues for social transfers to the lower segments of the population (Cottrell, 2019).

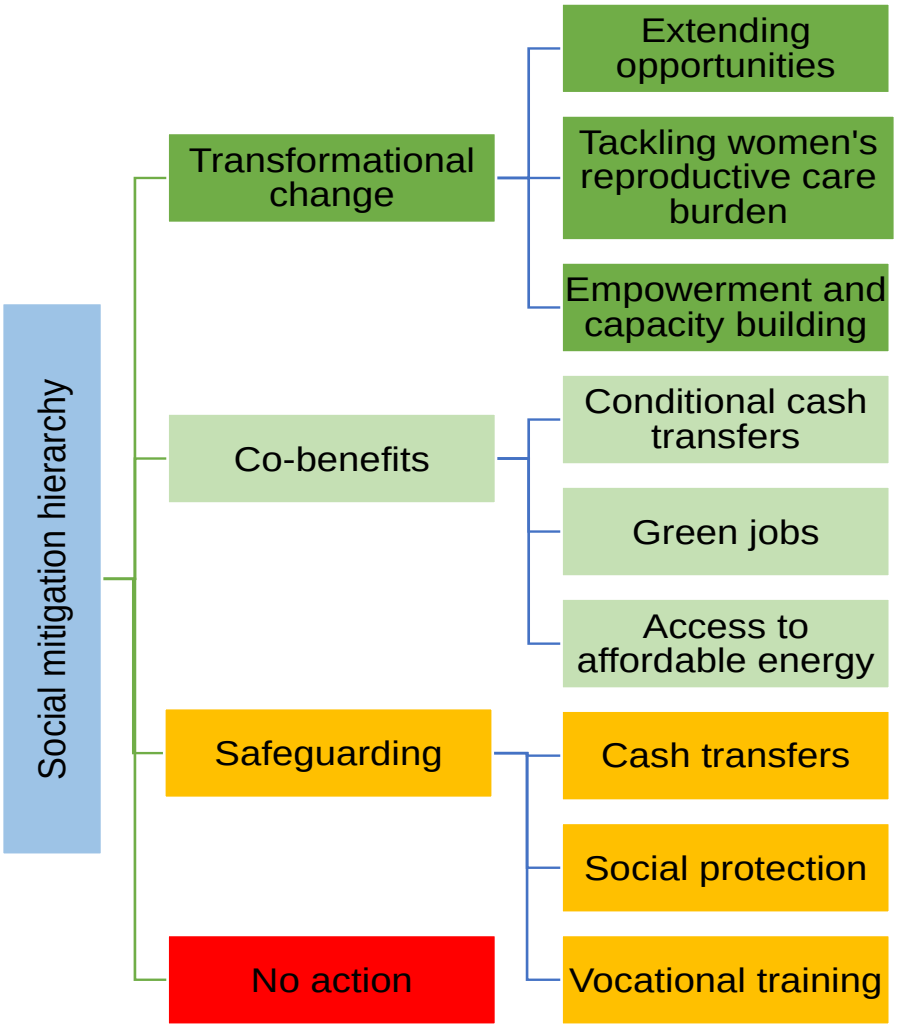
4.3 Addressing negative equity impacts

One of the most prevalent challenges to GFP implementation is concern related to negative equity impacts. Low-income households can be negatively affected by very small increases in relative prices, even in cases where a GFP measure is generally progressive. Carrying out a policy impact assessment to predict social impacts of GFPs – taking intersectional dimensions of deprivation into account – is essential, as a basis for developing appropriate and targeted social mitigation measures as an essential element in the design of any GFP instrument. Subsequently, close monitoring of the actual impacts of GFP following implementation is required to identify and respond to unpredicted effects.

The design of mitigation measures should take the social mitigation hierarchy shown in the figure below into account. These measures should seek to magnify the impact of the GFP instrument, prioritizing socially transformative measures, such as measures to address gender disparities, or co-benefits policies which encourage green economy transition and provide substitutions for polluting technologies. If such approaches are not feasible, safeguarding

policies such as cash transfers are an alternative. Mitigation measures should consider multiple dimensions of deprivation and should not reinforce structural inequalities relating to gender, ethnicity, age, or ability.

Figure 5: Addressing negative equity impacts



Source: ADB 2023

4.4 Designing a GFP instrument

Considerations for GFP instrument design, with a particular focus on typical challenges faced in LMICs, are shown in Box 3.

Box 3: Theoretical and practical considerations for the design of GFP

Tax base: Ideally, the tax base should target a pollutant or polluting behavior as directly as possible. In some cases, however, a proxy can be used, e.g. vehicle age as a proxy for air pollution emissions. Revenue collection considerations, such as which taxes are administrated effectively, can also play a role in the selection of the most appropriate tax base.

Point of application: To maximize coverage of emissions (and emissions sources) and enable the widest possible range of abatement options, a tax can be levied upstream, at the start of the value chain, i.e. the point of production. Upstream taxes reduce the administrative burden, as they tend to apply to fewer large taxpayers, making them difficult to avoid. In some countries, the economic and regulatory context makes downstream taxes, levied at the point of consumption, more effective, as they have greater potential to influence consumer behavior. This is particularly relevant in non-liberalized energy markets – in which case, an upstream tax will have little or no impact on end user energy prices.

Earmarking: Earmarking can be helpful in a context in which environmental policy objectives tend to be underfunded. Carbon taxes, and other taxes with the potential to mobilize significant volumes of domestic revenue, can help close gaps in climate finance. Earmarking can also communicate revenue use to taxpayers. To reduce the risk of revenue being reallocated to pursue short-term objectives, a separate fund can be created. In such a case, transparent disbursement processes and good financial governance are essential. E.g., revenues from the Mauritius Corporate Climate Responsibility levy – a tax on company profits levied at a rate of 2% – are earmarked for the Climate and Sustainability Fund and used to support national initiatives to protect and restore ecosystems and combat the effects of climate change. Even if legally binding earmarking approaches are not possible, softer political earmarking – where use of revenue is communicated to foster political acceptance – can also be considered.

Predicting distributional impacts: Given that one of the most important obstacles to GFP is concern about negative equity impacts, predicting such impacts is an essential part of the GFP design process. Qualitative approaches include checklists, literature reviews, historical analysis, scenario analysis, and stakeholder consultation and engagement. Predictions should feed into the design of appropriate mitigation measures (for more information on design of mitigations measures see Table 7.

Competitiveness concerns: A second important obstacle to GFP is concerns related to impacts on businesses and sectors exposed to international competition. These should be carefully considered, and sectors vulnerable to international competition may need to be supported to transition to greener technologies. Regional approaches to environmental pricing measures can be a good solution to international competitiveness concerns. It is important to note that fluctuations in energy and commodity markets tend to be far more significant than any impacts of an environmental tax.

Consider implementing packages of GFPs: Tax expenditures and government revenue foregone through deductions, exemptions, and other benefits granted through the tax code are common in LMICs as a means of encouraging behavioral change. Green tax expenditures can be effective in addressing market barriers and obstacles to behavioral change, and they can complement green taxes by reducing the cost of green investment and raising awareness of substitutions available at an affordable price.

Source: (ATAF & University of Pretoria, 2024)

Several lessons learned from previous processes of identifying and designing GFP instruments have shown to be relevant:

Table 8: Overview of lessons learned from previous GFP case studies

Topic	Lesson learned
Incremental tax design	Introducing GFP gradually – e.g. by using a tax rate escalator – gives economic actors time to adjust, and to make reforms more manageable. It also creates a dynamic incentive in favour of pollution reductions through behavioural change and green investment and increases the tax rate in line with changing elasticities.
Example	In South Africa, a carbon tax escalator will be realised through the gradual reduction of the basic tax-free allowance, coupled with changes to incentive-based allowances. This will gradually strengthen incentives under the carbon tax, with the

	aim of facilitating a just transition to a lower carbon economy in a phased manner, encouraging behavioural change. Source: *National Treasury 2024*
Tax rate setting	Environmental effectiveness is often limited due to too low tax rates. It is therefore important to review the tax rate regularly, or to consider indexation to inflation or a tax escalator, to progressively increase the tax rate over time, or the introduction of tax rate ranges, to enable less politicised tax rate increases.
Examples	In Guyana, an environmental levy was introduced in 1995 on non-returnable beverage containers and set at a rate of 5 USD cents. Between 1995 and 2021, inflation caused an almost threefold increase in prices, while the tax rate remained the same. Thus, inflation undermined the incentive effect of the tax. In Viet Nam, the 2012 Environmental Pollution Tax laid down tax rate ranges for environmental taxes on a range of pollutants, including lignite, plastic bags, transport fuels, pesticides and HCFCs. Since that time, tax rates have been adjusted both up and down within those ranges. However, it has proven politically difficult to adjust the tax rate ranges upwards, once the top rate was implemented. Source*: Environmental taxation in non-OECD countries: a review of experience and lessons learned*
Depoliticization of energy prices and tax rates	In many countries, the politicisation of energy prices leads to frequent policy reversals and a great deal of pressure on governments to adjust tax rates when global energy prices are high. Depoliticising energy prices and tax rates by involving independent agencies to shift decisions away from government or through the introduction of automatic tax increases can be one solution.
Examples	In Ghana, prior to the implementation of fossil fuel subsidy reforms in 2005 – which were realised through the regulation of the prices of diesel, gasoline, Liquid Petroleum Gas (LPG), and kerosene – the National Petroleum Authority (NPA) was created. One of the government's objectives was to depoliticise the price-setting process. The NPA was mandated to establish a formula for adjusting fuel prices and review the oil price twice a month. Source: *Fossil fuel subsidy reform in sub-Saharan Africa* In India, fuel tax excise is reduced during times of high global energy prices, and increased during times of low prices, to smooth the fuel price. Such an approach can moderate opposition to fuel excise, while retaining the incentive effect of the tax and allowing for revenue mobilization at time of low fuel prices. Source*: Environmental taxation in non-OECD countries: a review of experience and lessons learned*
Equity concerns	Delivering integrated solutions to policy challenges, e.g. by accompanying a GFP measure with repayment mechanisms to mitigate social impact, can maximize legitimacy, safeguard social equity, and facilitate change. Packages of GFPs can include green incentives to mitigate negative distributional impacts. Compensation should be separated from the GFP instrument to maintain the incentive effect. If possible, targeted compensation mechanisms should be developed, as broad assistance can become very costly.
Examples	In the Philippines, the 2017 Tax Reform for Acceleration and Inclusion (TRAIN) Act introduced increased excise rates on fossil fuels, including transport fuels and mineral products (coal and coke). At the same time, the income tax structure was reformed, and unconditional cash transfers were introduced to protect vulnerable households. Holistic approaches to GFP reforms can effectively address multiple policy challenges, including environmental degradation and social inequality, at the same time. In countries with low levels of private vehicle ownership among lower income groups, taxes on the transport sector may have progressive impacts. In Rwanda, vehicle purchases, petrol and diesel consumption are almost exclusively found in

	the wealthiest 40% of the population. Nonetheless, it is important to consider the potential welfare losses stemming from even minor reductions in household income attributable to environmental taxes, even where these taxes are progressive. Source: *A Climate of Equality*
Competitive-ness concerns	There are various ways in which GFPs can prevent negative competitiveness impacts, including regional approaches, border tax adjustments, revenue recycling to industry to facilitate transition, sector-specific support for technological responses or negotiation of agreements to reduce pollution emissions, e.g. in exchange for reduced tax rates, and greening local industries to gain global competitiveness in times of rising due diligence in trade chains. Green incentives and subsidies should be designed strategically, to maximise efficiency, and be targeted and time limited.
Examples	Many countries have adopted Feed-In-Tariffs (FITs) to encourage renewable energy investment and deployment and guarantee a predictable and stable revenue stream for power producers. In Germany, the FIT system is widely recognized for its success in accelerating renewable power generation, attributable to the guaranteed prices which varied by technology and size of producer, and regular review and adjustment of FIT rates, to facilitate investment without offering excessive margins at the expense of electricity consumers, who financed the FIT. Source: *Green Growth Best Practice* In Sweden, a charge on NOx emissions was introduced on larger power plants in 1992. All revenues from the tax are recycled to industry, in proportion to the volume of electricity generated, i.e. the most efficient plants receive the highest refund, incentivizing reduced emissions and higher efficiency in electricity generation. Source: *A Climate of Fairness*
Revenue considerations	Fiscal resources can be used to increase acceptance and build consensus in favour of reform, e.g. to cover administrative costs, finance social welfare and other compensation measures, or incentivize sustainable investments.
Examples	In Morocco, revenues from the plastics tax were directed to the National Environment Fund and are used to finance activities to promote recycling of plastic waste, to create a formalised waste separation sector. Source: *A Climate of Fairness*
Administrative burden	Develop strategic approaches that can minimize administrative costs by tagging measures on to existing fiscal instruments, e.g. using the existing excise tax structure to introduce a carbon tax or consider how to align the tax with broader governance structures and existing capacities. The administrative burden can also be reduced by reforming existing instruments.
Examples	In India, an upstream tax on coal, lignite and peat introduced as the Clean Environment Cess draws on an existing tax excise system for tax administration. Electronic payments are made monthly on a self-assessment basis, using the excise system, and administrative costs are therefore no higher than business as usual. Source: *A Climate of Fairness*

Sources: (Cottrell & Falcão, 2018; European Commission et al., 2023; Falcão & Cottrell, 2024; National Treasury of the Republic of South Africa, 2024; Whitley & van der Burg, 2015)

5 Step 5: Institutional capacity for GFP implementation

This section provides an analytical framework for assessing the institutional capacity to design, implement, and monitor GFP instruments. While this Guide cannot go into the details of all

challenges concerning elements important for institutional capacities, it outlines key guiding questions to identify strengths, weaknesses, and capacity development needs.

Institutional elements	Common challenges and potential mitigation
Policy and Regulatory Framework • Do national green growth or environmental strategies exist mandating GFP measures, such as the polluter pays principle? • Are environmental policies aligned with fiscal policies? • Which mechanisms, if any, are in place to review alignment of environmental and fiscal/budgetary policies?	Tax codes might be outdated and not include GFP principles. In most countries, select fiscal policies are not aligned with environmental and climate goals, e.g. via fossil fuel subsidies and other environmentally harmful incentives. ➢ Screen fiscal and budgetary policies for existing contradictions and lack of coherence, use green budget tagging or other screening approaches, see e.g. ADB 2023. ➢ Learn from peer countries how they have reduced environmentally harmful subsidies.
Institutional Coordination • Are institutional mandates and responsibilities for GFP clearly defined? • Do inter-agency coordination mechanisms exist and are they being used?	Main challenges include a lack of human capacity for coordination within and between relevant ministries, and ministry mandates which conflict with GFPs or have priority over environmental and climate policy goals (OECD, 2025). ➢ Analyze which agencies at different government levels need to be involved in GFP, e.g. to provide data, support stakeholder dialogues, or administrate collection of taxes for GFP implementation. ➢ Push for clear mandates and coordination mechanisms on GFP, such as inter-ministerial working groups and committees.
Human Resources and Technical Expertise • Are trained staff with knowledge of GFP instruments available? • Do staff have access to training and capacity building programs? • Is technical capacity for economic and environmental modelling available? • How can technical knowledge best be managed in the face of frequent staff changes?	Previous knowledge of GFP and modelling environmental data is not always available and training capacities are limited. ➢ Focus on easy to implement GFPs, such as excises which can be tagged onto existing excise collection mechanisms, such as excise on fossil fuel. ➢ Invest in training programs for tax officers and environmental inspectors, e.g. financed with GFP revenue. ➢ Look for GFPs in neighboring countries that can give an indication of potential impacts. ➢ Develop a strategy to manage technical knowledge within key ministerial departments.
Data, Information, and Analytical Tools • Are environmental and economic data available? • Are analytical tools for impact assessment and scenario modelling in existence and being used? • Are systems for inter-agency data sharing in place?	Environmental and economic data, as well as interconnected data management systems, are often scarce in LMICs. ➢ Consider developing national environmental accounts, e.g., SEEA. ➢ Consider building data-sharing protocols and integrated registries. ➢ Partner with research institutions to conduct impact studies and modelling. ➢ Use what data is available to develop GFPs and draw on revenue to enhance data available.
Stakeholder Engagement and Communication • Do mechanisms exist to consult stakeholders, such as civil society and the private sector?	Stakeholder engagement takes time and effort yet can mitigate social opposition and protest against GFP reforms. ➢ Develop a communication strategy, differentiated by target audience, and clearly

• Are strategies in place to build social acceptance for GFP reforms? • Do communication strategies exist to explain GFP benefits?	communicate how revenues are used, e.g., for green investment, social compensation, or something else. ➢ Earmark a portion of revenues for visible community benefits. ➢ Publish annual reports and conduct independent audits. ➢ Develop a communication plan on the benefits of GFPs.
Lessons Learned • Is there a system to support institutional memory and documentation of lessons learned?	Knowledge management is not always a strength in government systems. • Consider establishing a knowledge management and a monitoring system.

6 Step 6: Implementation and Monitoring

6.1 Implementation Plan

With the definition of the tax base, tax rate, liable taxpayers, point of application, tax collection mechanism, and design of accompanying measures (see Step 4 above) the **technical foundations for the implementation of a GFP** have been laid. However, **implementation also includes important political economy aspects** that will need to be considered.

During the discussion of GFP proposals with all key stakeholders in the Steering Group, it will be crucial to develop a detailed plan for implementation. This Implementation Plan should outline all the steps necessary for the introduction of the identified GFP instrument into law and define roles and responsibilities and a clear timeline for this process.

The Implementation Plan should resolve all questions related to the political economy of the GFP proposal, so that it is possible to build consensus and political acceptance around the measure and prepare the ground for putting the GFP into law. In turn, this will call for ongoing engagement with a wide range of stakeholders – both within and outside government – to understand their perspectives and adjust the initial GFP design. A policy impact assessment should also be undertaken to inform the design of accompanying measures.

The Implementation Plan should answer the questions below:

- Who needs to be involved in the process and at what stages?
- Which actors will steer the process going forward?
- Which actors will be responsible for finalizing the policy design?
- Which stakeholders will be consulted? How and to what extent will their perspectives be integrated within the GFP?
- Does the proposed GFP measure require new legislation or amendments to existing legislation, and if yes, what does that entail?
- What steps will be necessary to incorporate the new GFP instrument in legislation in the country?
- Who will be responsible for which step? What do they have to do, and when?
- What is the timeline for the process?
- Who should report progress to whom?

Lessons learned 8: Political champions and interministerial cooperation

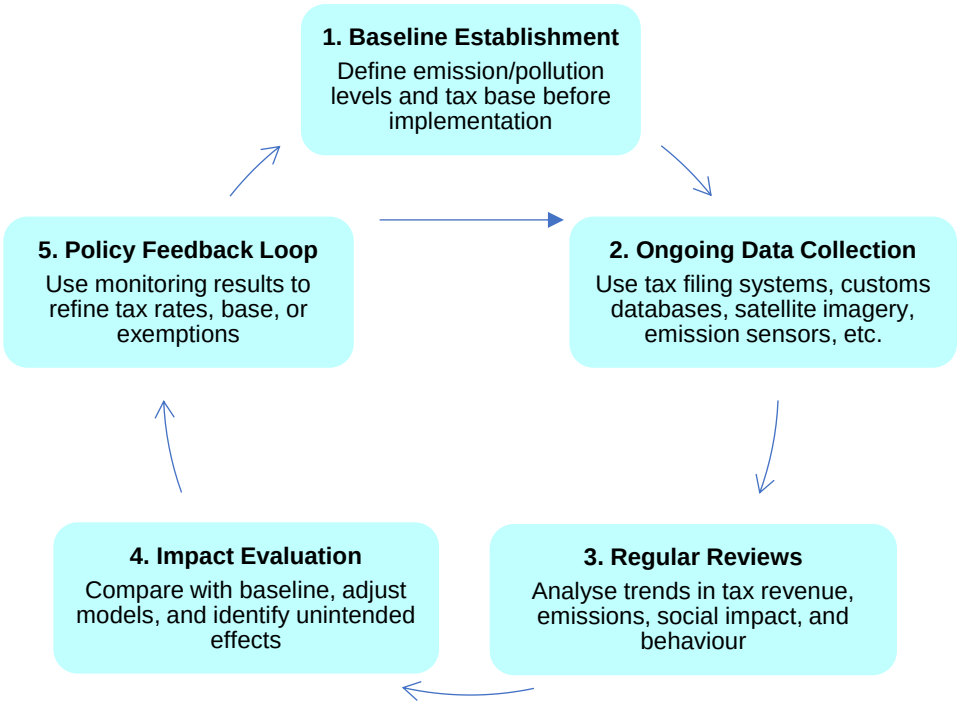
Political champions: It can be important to have a political champion for a GFP instrument to drive and lead the process described above: this might be a policymaker or a high-level public official. In Vietnam in 2004, prime minister Nguyen Tan Dung made a formal statement requesting that an Environmental Protection Tax be implemented by 2012 and remained an important driver of the process.

Interministerial cooperation: GFP is a cross-cutting issue, and the technical knowledge and data required to inform the design of GFP instruments is spread across ministries. Therefore, structures to facilitate interministerial exchange and cooperation, such as the Steering Group proposed here, can help to inform the GFP design and implementation process. Many Finance Ministries, e.g. Ghana, have chosen to create a Climate Division or Climate Unit tasked with drawing together relevant ministries and agencies and embedding climate considerations in fiscal and budgetary policy.

6.2 Monitoring Framework

Once a GFP measure has been enacted, it is important to monitor it carefully. Monitoring ensures that unanticipated negative social or competitiveness impacts can be picked up on quickly and implement a rapid response to mitigate, compensate, foster transition or facilitate access to substitutions. Particularly if the Standards and Pricing approach to tax rate setting has been used, monitoring for environmental effectiveness – reflected in changing behaviour and trends in revenue – is necessary to inform potential tax rate adjustments to ensure that the standard is met. In any case, it is good practice to monitor and regularly review GFP instruments, as prices change, new green innovations become available, or the impact of ad quantum tax rates reduces over time. A monitoring framework would need to include the following steps.

Figure 6: Monitoring Framework



The following indicators can be helpful for the establishments of baselines and data collection (see table 1, 2, and 3 for data sources that can support the data collection exercise).

Table 9: Sample Indicators for Monitoring Framework

Category	Indicators (examples)	
Financial	- Tax revenue collected (by tax type, e.g. fuel, plastics, emissions) - Compliance rate	- Cost of administration - Number of taxpayers - Share of environmental tax revenue in total tax revenue
Environmental	- Change in emissions or pollutants - Change in health indicators	- See table 3 on environmental challenges and make use of indicators and data sources outlined there
Social	- Distributional impact across income groups - Employment shifts in polluting vs. green sectors	- Use of compensatory mechanisms - Access to green alternatives, e.g. public transport, renewables
Behavioural	- Change in product usage or consumer behaviour	- Adoption of green alternatives

Part C: Additional Resources

Part C provides additional resources to tap into for inspiration. These include sample interview questions and an overview of existing country case studies relevant for GFP, including a list of existing GFP instruments.

1 Examples of Green Fiscal Policies

Examples for environmental taxes

Tax Type	Example	Purpose
Carbon Tax	CO_2 tax on fuels or emissions	Reduce GHG emissions
Energy Tax	Tax on electricity, fuel, natural gas	Incentivize energy efficiency and reduction
Vehicle Tax	Higher tax on fuel-inefficient cars	Promote low-emission transport
Air Travel Tax	Flight levies based on distance/class	Reduce aviation emissions
Plastic Tax	Tax on non-recycled or single-use plastic	Encourage recycling and reduction
Water Extraction Tax	Tax on water use from natural sources	Prevent overuse of water resources
Landfill/Incineration Taxes	Per ton tax on waste	Recycling and waste reduction

Examples for green subsidies and incentives

Instrument type	Example	Purpose
Renewable Energy Subsidies	Feed-in tariffs, investment grants	Boost clean energy production
Electric Vehicle (EV) Incentives	Purchase rebates, charging station support	Promote clean mobility
Energy Efficiency Grants	Home insulation, heat pumps	Reduce energy consumption
Sustainable Agriculture Support	Payments for ecosystem services	Encourage biodiversity and soil health
Tax Credits	For solar panels, efficient appliances	Lower up-front cost of green tech
R&D Support	Funding for green innovation	Stimulate new technologies
Accelerated depreciation for green technologies	Reduced tax burden for companies investing in green technologies, e.g. energy-efficient equipment	To incentivise green investment and shift industrial production onto a sustainable development path

Examples for regulatory instruments with fiscal components

Instrument	Fiscal mechanism	Purpose
Emissions Trading Systems (ETS)	Cap-and-trade with auction revenue	Price carbon while generating public funds
Deposit-Refund Schemes	Refund after recycling return (e.g. bottles)	Encourage reuse and waste reduction

Environmental Fines and Fees	Charges for non-compliance	Deter environmental harm
Extended Producer Responsibility (EPR)	Mandatory waste fees for manufacturers	Encourage product lifecycle responsibility
Building Codes with Penalties/Incentives	Fiscal penalties or bonuses for efficiency	Drive sustainable construction

2 Sample interview questions

Below is a list of questions that have proven to be useful during interviews with stakeholders in specific countries (e.g., government institutions, CSOs, private sector associations). The questions can be used for ideas when preparing the interview phase and should be adapted to the specific context.

a) Interviews with national authorities:

FISCAL POLICY QUESTIONS

Stock-taking on current GFP:

- Which GFP measures (environmental taxes, fees, and licenses) currently exist? Are they perceived as "just another tax" to generate revenue or o environmental policy goals play an important role?
    - Which export duties exist (gold, coffee, tea...)? Would you have a list of all export duties that can be shared?
- *Ask for the potential reform of or further information on existing instruments*, e.g.
    - Excise tax on vehicles is low compared to other countries. Do you see leverage to raise them?
    - We understand that there are fees for air pollution permits. Where can we find the current rates applied?
- Can you support us with any further data on existing environmental taxes/fees/licenses?
- Enabling tax reforms: Are there any tax benefits to promote private sector investments in climate and environmentally friendly projects?
- How have stakeholders been involved when introducing GFP in the past? What obstacles were encountered and how were they addressed? How are they perceived by the public? What have been the impacts so far? Are there lessons learned?

Monitoring & policy evaluation:

- Do impact assessments for tax reforms systematically consider climate/ environmental impacts and distributional impacts of policies?
- Is there a systematic review process on subsidies (including classification of harmful subsidies)?

Looking forward:

- Where do you see priorities for domestic revenue mobilisation in the coming years? What potential do you see for GFP to contribute to that?
- Do you know of specific sectors that cause pollution and environmental damage but are undertaxed?
- Do you have specific GFP measures in the pipeline? Are there areas/ instruments that you would be interested in getting input on? Are there examples of good practice on GFP from other countries that you find interesting?
- Are there specific environmental taxes – or other GFP measures – that you would be interested in reforming or reviewing?
- We understand that equality factors will have to be considered when thinking about new taxes, what other design features / factors are necessary to make GFP politically acceptable?

ENVIRONMENTAL QUESTIONS

- Which are the sectors with the most detrimental impact on human health and/or sustainable development?
    - What are the most important drivers of environmental degradation in these sectors? Can you help us out with data on impacts?
    - In terms of addressing these issues, where are your priorities over the next five years?
    - For which of these priorities do you think GFP are suitable?
- What are the main negative environmental impacts of the agriculture sector? Is there data to quantify the impacts of fertilizers on soils & water? What is the reason behind existing subsidies? Do you perceive them to be effective? Which alternatives, such as green technology to boost land productivity, are used? Do you see opportunities for reform?
- What are the main negative environmental impacts of the transport sector? Do you have data on the pollution emitted / the degradation caused? What are the most important challenges regarding vehicle imports – and their taxation?
- What are the main negative environmental impacts of the energy sector? Do you have data on the pollution emitted / the degradation caused? What is the reason behind energy subsidies? Do you perceive them to be effective? Do you see opportunities for reform?
- What are the main negative environmental impacts of the construction sector? Do you have data on the pollution emitted / the degradation caused?

SOCIAL QUESTIONS

- Is a mechanism in place that allows for a repayment of GFP revenues to vulnerable parts of the population (e.g. related to poverty, gender, etc.)?
- The informal sector is very large – do those in the informal sector receive any social assistance? If yes, how is this welfare distributed?
- We have been thinking about how to introduce progressive GFP measures. Can you think of specific potential tax bases you would expect to have a progressive impact if they were taxed? For example, air travel, or 'luxury' taxes on vehicles?
- Do you conduct social & environmental impact assessments before implementing new taxes? Which factors do you take into consideration and what level of granularity do you use when looking at impact on vulnerable groups?

QUESTION ON FOLLOW UP

- Would you have recommendations on data / studies, we should investigate or further contacts interesting for this research?

b) Interviews with other actors

CIVIL SOCIETY

- Where do you see priorities for domestic revenue mobilisation in the coming years?
- Can you identify political opportunities for GFP?
- We have been thinking about how to introduce progressive GFP measures. Can you think of specific potential tax bases you would expect to have a progressive impact if they were taxed? For example, air travel, or 'luxury' taxes on vehicles?
- What are the most significant environmental challenges in your view, i.e. those which have the most significant impacts on human health or sustainable development?
- What are the main negative environmental impacts of the agriculture / transport / energy / construction sectors?
- What are the most significant causes of environmental degradation at the present?
- What potential do you see for GFP to address these?

DONORS
• Which GFP reforms are you working on? What is the status and what is planned in the next 2-3 years? • In which other sectors do you see the need for (complementary) GPF reforms? How can synergies be created? • What coordination efforts do you see necessary?

3 Recommended literature on Green Fiscal Policy

The is an overview of useful publications to draw on when seeking examples of international best practice, or to further explore aspects of the theory and practice of GFP:

- ATAF (2024). Toolkit for Environmental Taxation in African Countries. African Tax Administration Forum.
- Asian Development Bank (2023). A Manual for Carbon Pricing and Fossil Fuel Subsidy Rationalization in ADB Developing Member Countries.
- Cárdenas Monar, D. (2024). Maximising benefits of carbon pricing through carbon revenue use: as review of international experiences.
- Cottrell, J., Bär, H., Wettingfeld, M. (2023). Environmental taxation in non-OECD countries: a review of experience and lessons learned. European Commission.
- Cottrell, J. and Falcão, T. (2018). A Climate of Fairness: Environmental Taxation and Tax Justice in Developing Countries. Vienna: VIDC.
- Cottrell, J. et al (2017). Environmental Tax Reform in Asia and the Pacific. UN ESCAP – Economic and Social Commission for Asia-Pacific.
- Dorbrand et al. (2019). Poverty and distributional effects of carbon pricing in low- and middle-income countries – a global comparative analysis.
- Granger, H., et al. (2021). 'Green' motor taxation: Issues and policy options in sub-Saharan Africa.
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