INTRODUCTION

Tax and expenditure policies are an important part of a government’s toolkit to address environmental issues in general, including climate change:

- Taxes are one of the most effective tools to change the behavior of businesses and households. Many governments levy taxes on goods or activities that are harmful to the environment, including excise taxes on gasoline and other fuels. Increasingly, governments are also recognizing the need to tax greenhouse gas (GHG) emissions, for example through establishing emissions trading systems.

- Government spending can also influence economic and technological decisions that impact the environment, for instance, through spending on public transport to reduce the use of private vehicles, or by providing subsidies and capital grants to businesses and households to encourage the use of renewable energy. Governments can also help control GHG emissions through their capital investment. For example, as new schools, hospitals, or other public buildings are built, refurbished, or upgraded, governments can invest in an environmentally friendly way. They can also engage in adaptation spending, for instance, by investing in stronger flood defenses.

This chapter is organized as follows. The first section discusses the definition of environmentally related taxes, in line with international statistical standards, and provides related guidance for practitioners. It also examines the revenue raised by these instruments and their trends. The next section discusses the measurement of government expenditures on environmental protection, also in line with international statistical standards. It also discusses spending patterns and how to improve data going forward. The last section draws conclusions and next steps for improving measurement of government interventions to protect the environment or combat climate change.
ENVIRONMENTAL TAXES TO ADDRESS ENVIRONMENTAL CHALLENGES

Methodology and Data Sources

Taxes are defined as compulsory, unrequited payments, made in kind or in cash, receivable by government units from institutional units. This concept is well established at the international level (OECD 2001, 2018a; United Nations 2009; IMF 2014).

An **environmentally related tax** is a tax whose base is a physical unit (or a proxy of it) of something that has a proven, specific, negative impact on the environment (United Nations and others 2014). Environmental taxes may be designed to internalize externalities, and as such the tax rate should equal the marginal external costs. Nonetheless, while the tax base is relevant for the environment, the tax itself might be motivated in the first place to raise revenue—for example, excise taxes on gasoline—with little or no consideration of their environmental effects (OECD 2017a). Permit schemes, such as emissions trading systems, are considered nonrecurrent taxes on goods and services in international tax classifications and statistical standards. Consequently, the government revenue generated from the auctioning or selling of permits or certificates is included as environmental tax revenue.

To determine whether a tax is environmentally related, the tax base needs to be identified. Table 3.1 lists the most commonly used tax bases (OECD 2020). Although the list is comprehensive in the scope of possible environmental taxes, it does not aspire to be exhaustive. The list is likely to evolve over time to reflect new technological developments, new uses of environmental assets, improved measurement of ecosystem services, and better understanding of human impacts on ecosystems.

The definition of an environmental tax cuts across commonly applied tax classification systems. In practice, common tax classifications in macroeconomic statistics follow the economic function of taxes and as such do not generally allow the identification of specific tax bases. More concretely, international tax classifications categorize taxes into the following five groups (IMF 2014, Table 5.1; OECD 2017b, Annex A.1):

1. Taxes on income, profits, and capital gains
2. Taxes on payroll and workforce
3. Taxes on property
4. Taxes on goods and services
5. Taxes on international trade and transactions

Most environmental taxes are established on goods and services, typically taking the form of excise taxes, taxes on specific services, and taxes on the use of goods and on permission to use goods or perform activities. Taxes on income, profits and capital gains, payroll, and property are, in general, not related to the environment, and will in general contain few environmentally related taxes. At the same time, as the general understanding of the links between the environment and the economy evolves over time, the scope of what is considered environmentally related may also change. Property taxes, for example, are a rarely used yet potentially suitable instrument to support environmental policy objectives (OECD 2018b; Oueslati and others 2016), as they can help increase the density of land use and curb urban sprawl (Brandt 2014; Blöchliger 2015).

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3 Governments also collect revenue via various fees and charges that target environmental tax (or fee) bases, but do not feature as tax revenue. Similar to taxes, fees and charges seek to internalize (at least some of) the external costs. But, unlike taxes, they are required; that is, they tend to be paid in proportion to a quantity in return for a service received. Common examples of environmentally related fees or charges include charges on drinking water supply, wastewater treatment, and municipal solid waste collection and management. While environmentally related fees and charges can have important fiscal and environmental implications, they are out of the scope of this chapter.
Environmental taxes are typically grouped into four mutually exclusive categories that relate to energy, transport, pollution, and resources (Table 3.1). Each tax base is allocated to a single category. For example, a congestion tax levied on cars is categorized as a “transport tax” because the tax base is the vehicle and possibly the hour and duration of driving. The categorization is thus independent of any motivation or purpose of the tax, such as to diminish local air pollution and noise. Only tax bases relating to the quantity of pollutant (for example, particulate matter emitted or noise produced) would be included in the “pollution tax” category.4

4 A well-known example is the Swedish tax on nitrogen oxide emissions applied to the quantity of emissions of nitric oxide (NO) and nitrogen dioxide (NO2). The Swedish regulation introducing the tax targeted large combustion sources (for example, power plants, industrial plants, waste incinerators) and mandated continuous monitoring of the emissions at the plant level, making it possible to tax polluters based on the quantity of NOx emissions (OECD 2013). As another example, waste taxes can be based on the weight and composition of waste (recyclable versus mixed household waste), and alternatively on waste collection frequency or waste bin volume.
Current definitions of environmental taxes do not include any revenue from general taxes on goods and services, such as the value-added tax (VAT). This is because these taxes do not change relative prices, provided they are the same for all and therefore will not modify the environmental pressure originally identified. However, VATs with higher rates levied on environmentally related tax bases are interesting to consider. For example, Norway has introduced a full exemption of 25 percent VAT on electric vehicles since 2001 (OECD 2022a). The exemption generates a forgone revenue (tax expenditure). However, since electric car sales exceed 50 percent since 2019, the 25 percent VAT rate on fossil fuel cars can be considered an elevated tax rate, and the revenue coming from this elevated tax rate could be considered an environmental tax. Since 2019, the OECD has expanded its data collection to also record higher VAT rates that address environmental concerns.

There are various databases on revenue collected through environmental taxes. The Organisation for Economic Co-operation and Development (OECD) collects and publishes the most comprehensive international data through its Policy Instruments for the Environment (PINE) database, with data provided by government officials and country experts. Eurostat also publishes data on environmental taxes for its Member States and some surrounding countries, drawing on the data reporting of national tax lists. Moreover, both Eurostat and OECD collect data on environmental tax revenue accounts, that is, revenue by economic activity. The IMF Climate Change Dashboard (CID) draws upon the OECD database to publish headline environmental tax revenue, supplemented by additional data collections by the IMF to fill data gaps for some countries.

TRENDS IN ENVIRONMENTAL TAX REVENUE

Environmentally related tax revenue is small compared to GDP and total tax revenue. In most countries, the predominant forms of tax revenue are general sales taxes, such as VATs, and taxes on income, profits, and capital gains paid by individuals (personal income taxes) and businesses (corporate income taxes). Most countries also raise tax revenue from other types of taxes that are not environmentally related, such as taxes on property and excise taxes on goods such as tobacco and alcohol.

In advanced economies, environmental tax revenue represented on average just 1.7 percent of GDP during 1995–2020 (Figure 3.1). In comparison, tax revenue from income, profit, and capital gains of individuals is close to six times higher, and that on goods and services is five times higher. The low level of revenue raised by environmental taxes combined with the economic efficiency of these instruments to address environmental issues (See “Limitations and Priorities for Further Statistical Development”) indicate that there is room for them to play a bigger role in addressing environmental challenges at the domestic and international levels.

Revenue from environmental taxes is only a few basis points higher in advanced economies compared to emerging market and developing economies. The gap between the two country groupings has narrowed over time, partly because the tax base, such as water abstraction, quantity of energy consumed, or pollution emitted, tends to diminish per unit of GDP in advanced economies, whereas it increases in emerging market and developing economies.

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5 For instance, when buying gasoline at a UK gas station, the price paid by the consumer includes a significant amount of both UK Fuel Duty at 52.95 pence per liter (as of June 2022), but also a substantial amount of value-added tax (VAT). VAT is charged at 20 percent on both the price of the underlying gasoline and the UK Fuel Duty. In June 2022, when buying gasoline in the UK, a consumer might pay around 85 pence per liter in combined Fuel Duty and VAT, but while the 52.95 pence per liter Fuel Duty is included in environmental tax revenue for the UK, the 32 pence per liter VAT is not.

6 For a more complete methodology to retrieve environmental tax revenue from common tax classifications, see OECD (2020).
Revenue from environmental taxes increased in real terms during 1995–2018. However, it has been on a declining trend compared to GDP since 1995. Over the past 25 years, these taxes have fallen by 0.4 percentage points and now represent only 1.3 percent of GDP (2020 average) (Figure 3.1). In contrast, taxes on goods and services represent 10.7 percent of GDP in OECD countries, and this share has remained steady over the period 2000–20 (OECD 2021a). The decline can be explained by three main factors:

- Most environmental taxes are levied on tax bases that are defined in physical units that do not change over time. This contrasts with income or product taxes, which are levied on tax bases defined in monetary units and hence tend to increase over time due to rising producer and consumer prices. If environmental tax rates remain fixed, the share of environmental tax revenue will fall over time. For example, the US federal gas tax has remained at 18.4 cents per liter of gasoline since 1993 and thus has significantly declined in value in real terms. Automatic adjustments of nominal tax rates for the rate of inflation, or similar adjustment mechanisms, are needed to avoid an erosion of the stringency of environmental taxation over time.

- Eroding tax bases, meaning a decrease in their physical quantity, can also explain the drop in revenue. Such erosion can be considered good news if it reflects diminishing environmental pressures. However, the decline is observed mostly per capita or per unit of GDP in advanced economies; if the population and GDP grow in absolute terms, the overall pressure will not necessarily diminish. Moreover, in emerging market and developing economies, emissions and pollution have been rising in both relative and absolute terms. Enlarging the tax base can help

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7 This chart and subsequent charts on environmental tax revenue are based on a subset of advanced economies and emerging market and developing economies, as data for some of these countries are currently not available.

8 A decrease is observed in 2020, following the restrictions due the COVID-19 pandemic. Environmentally related tax revenue is based on the physical quantity of energy used or pollution emitted (see “Methodology and Data Sources”), and in 2020 energy and transport usage as well as pollution mostly decreased due to the restrictions.
address these trends. In the case of transportation taxes, differentiating personal and commercial vehicles or introducing recurrent car taxes (ownership) and road taxes (distance traveled) are ways to tackle declining revenue. In the case of resource taxes, land as well as other natural resources remain a large untapped revenue stream.

- Tax leakage, involving relocation of economic activities to jurisdictions with laxer environmental regulation, can also play a role. This is why, for instance, the proposed European Union (EU) Carbon Border Adjustment Mechanism targets carbon-intensive sectors by taxing imports in the same way as the EU does domestic production. Enlarging the tax base by considering taxing the imports of environmentally harmful goods would also help mitigate environmental tax leakage.9

The composition of environmental tax revenue has also changed over time, slowly increasing in emerging market and developing economies as a percentage of GDP, while decreasing in advanced economies (Figure 3.2). Revenue from taxing energy use represents the biggest share, although it has continuously decreased from 1995 to 2020. Energy taxes, especially taxes on gasoline and similar fuels, are some of the oldest taxes on environmentally related goods and services. In countries that managed to maintain high levels of gasoline excise taxes in real terms, such taxes have incentivized improvements in fuel efficiency and a shift toward electric vehicles, thus reducing revenue from these taxes. Therefore, other types of environmental taxes are becoming relatively more important.

9 The use of consumption-based, as opposed to production-based, environmental footprint information can help policymakers design such instruments (Yamano and Guilhoto 2020). Corporate sustainability due diligence systems that require the identification of actual or potential adverse effects of operations on the environment, including through supply chains, and the public communication of this information, can also help governments address potential tax leakage.
There have been significant increases in revenue from resource taxes, possibly due to governments’ growing concerns about finding more sustainable uses of natural resources, such as abstracting freshwater and harvesting timber and fish. Revenue generated from taxing transport use has remained constant in relative terms, but the nature of the taxes has shifted over time. Although the basis is still composed of a car registration tax, the incentives to shift from conventional cars to hybrid and, more recently, electric cars have translated into tax reductions for these vehicles, resulting in less revenue for the government, everything else equal. Additional revenue has been generated by the introduction of congestion taxes.

Environmental taxes that are common in advanced economies differ from those in emerging market and developing economies. Advanced economies mostly tax energy use, and carbon taxes form a larger proportion of environmental tax revenue, while for emerging market and developing economies taxes on resources are relatively more important. Also, the comparatively higher weight of the value added of agriculture, forestry, and fishing in emerging market and developing economies’ GDPs can explain why taxes on resources represent a more significant share of overall revenue.

Another way to compare environmental taxes across countries is to consider cross-country differences in total tax revenue (Figure 3.2). The share of environmental taxes in total tax revenue has declined since 2010 in many countries, both advanced economies and emerging market and developing economies. Yet some countries such as the Solomon Islands and India, Turkey, and Uganda made progress on the path toward “greening” their taxation systems. Reforming and phasing out fossil fuel subsidies and a progressive increase in taxation of such fuels as well as other environmental pressures, following the polluter-pays principle, would generate additional revenue for government budgets while addressing negative environmental externalities.

More generally, environmental tax reforms can be used to decrease the distortionary effects of other taxes (Pearce 1991). Several countries have done so, in turn improving environmental outcomes. A study that included 27 EU Member States examined the effects of gradually shifting taxes from labor toward environmental pollution, increasing taxes on fossil fuels, electricity, and water use (Groothuis 2016). The results suggest that employment would increase by 3 percent and GDP by 2 percent over a five-year period, while water use, energy use, and carbon emissions would decline by over 5 percent (OECD 2017a; IMF 2021a).

LIMITATIONS AND PRIORITIES FOR FURTHER STATISTICAL DEVELOPMENT

Scaling up efforts for all countries and all environmental taxes is key. Methods to identify environmental tax revenue are well established. They make use of fine-grained data at the level of individual tax instruments to assess their environmental relevance. But current data reporting efforts focus largely on energy taxes and are concentrated primarily in OECD countries.

All national statistical offices should also strengthen their efforts to compile accounts corresponding to environmental tax revenue and implement the System of Environmental-Economic Accounts (SEEA) more broadly. This would provide information on revenue by industries and households (see “Methodology and Data Sources”). The industry-level disaggregation provides more insights into the environmental and economic effectiveness of environmental taxes. For example, combining environmental tax accounts and CO₂ emissions accounts for a selection of advanced economies, Figure 3.3 shows that in the past decade the energy sector (D) has increased its relative contribution of environmental tax revenue while decreasing its share of CO₂ emissions. By 2019, the energy sector contributed up to 31 percent of CO₂ emissions but less so to environmental tax revenue (~10 percent). This could be explained partly by the tightening of the European Union’s emissions trading system. Compared to aggregated data on environmental tax revenue, the
availability of environmental tax revenue accounts is even more limited, concentrated primarily in Europe.

**ENVIRONMENTAL PROTECTION EXPENDITURES**

**Methodology and Data Sources**

Government expenditure is a critical macroeconomic indicator. How much is the government spending, and on what? How much governments spend on environmental protection is a more recent question, one harder to answer due to data availability and at times a lack of transparency.

For most countries, government expenditure is defined in line with either national budgeting and accounting definitions or macroeconomic statistical manuals, such as the System of National Accounts 2008 (United Nations 2009) and the Government Finance Statistics Manual 2014 (IMF 2014), and in a few cases international public sector accounting standards. Fiscal data published following national standards or statistical manuals typically emphasize an economic classification of expenditure, breaking down spending into economic categories like compensation of employees (wages and salaries), purchases of goods and services, interest payments, subsidies, social benefits and other types of transfer, and investment by government in nonfinancial assets (capital projects). But this is not sufficient to understand government spending on climate change.

For that, we need data on expenditures categorized by the purpose or function of that spending. For many countries, the best currently available data are government expenditure data classified...
according to the Classification of Functions of Government (COFOG). COFOG is part of a family of classifications originally formulated by the OECD and published together with three other classifications in United Nations’ Classifications of Expenditure According to Purpose (New York 2000). COFOG identifies 10 principal divisions of government expenditure, including defense, education, health, economic affairs, public order and safety, and environmental protection (see Table 3.2).

Each COFOG category also includes all expenditures on a particular function regardless of the economic nature of the expenditure. Consequently, government expenditures on environmental protection, under the COFOG classification, includes any compensation of employees, capital investment, purchases of goods and services, and transfers that have an environmental protection purpose. In some countries, COFOG data is cross-classified with economic classification expenditure data, but dissemination of this more detailed data is mostly limited to EU members and some other advanced economies.

Although the overall heading of “environmental protection” may sound highly relevant to the question of how much governments are spending in relation to climate change, the data is, at best, a proxy measure. To begin with, government spending on waste management (that is, refuse collection) and wastewater management (that is, sewerage systems), while important, is not necessarily related to climate change. Nor is protection of biodiversity and landscape, which covers, for instance, spending on national parks and nature reserves. While the definition of “pollution abatement” does include a direct reference to spending on “measures to control or prevent the emissions of GHGs,” it also includes many other types of pollution that are not related to climate change, including noise pollution and protection against radiation.

COFOG is also compiled according to primary purpose, so government spending with a partial climate change–related motive is often recorded under the COFOG code that reflects the primary purpose of the spending. For example, spending on public transport, which can have a climate change motive, will typically be recorded under the COFOG code for transport. If a government builds new schools or hospitals with more environmentally friendly materials, or in an energy efficient way, or with on-site renewable power generation, it is likely that the spending will be recorded under the primary purpose of the school or hospital, as COFOG-classified spending on health or education. More precise alternatives to COFOG classifications in the form of green budget tagging or climate budget tagging are under development in many countries and are discussed later.

Government expenditures included within the COFOG-based definition are aligned with the concept of expenditure in the Government Finance Statistics Manual 2014 (IMF 2014). They

<table>
<thead>
<tr>
<th>Divisions</th>
<th>Groups</th>
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<tbody>
<tr>
<td>General public services</td>
<td></td>
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<tr>
<td>Defense</td>
<td></td>
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<tr>
<td>Public order and safety</td>
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<td>Economic affairs</td>
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<tr>
<td>Environmental protection</td>
<td>Waste management</td>
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<td></td>
<td>Wastewater management</td>
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<td></td>
<td>Pollution abatement</td>
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<td></td>
<td>Protection of biodiversity and landscape</td>
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<tr>
<td></td>
<td>Research and development environmental protection</td>
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<tr>
<td></td>
<td>Environmental protection not elsewhere classified</td>
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<tr>
<td>Housing and community amenities</td>
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<tr>
<td>Health</td>
<td></td>
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<tr>
<td>Recreation, culture, and religion</td>
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<tr>
<td>Education</td>
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<tr>
<td>Social protection</td>
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Data for a Greener World include what are referred to as “current and capital” expenditures of the government. However, there are forms of government “expenditure” that are not included in the conventional measures of government expenditure, most notably tax expenditures, discussed in more detail in Box 3.1.

COFOG data are compiled and reported by around 100 countries as part of the annual collection of data for the IMF’s Government Finance Statistics Database. This database includes data for some countries back to the early 1990s, though shorter time series are more typical. Among EU members, detailed breakdowns of environmental protection expenditures, including for each of the subcategories, are available. In other countries, the more detailed breakdown is only available in recent years, or not at all, as prior to 2014 the IMF did not request that countries submit the full COFOG breakdown. Data in some countries, including most advanced economies, cover all government institutions (the general government). In other countries, data are limited to the central government or an even more limited set of institutions called the budgetary central government (which can exclude agencies and government entities that are engaged in environmental protection activities).

### TRENDS IN ENVIRONMENTAL PROTECTION EXPENDITURE

Government spending on environmental protection is low as a percentage of GDP across countries and over time. For instance, average unweighted spending by the general government in advanced economies on environmental protection each year was only 0.7 percent of GDP during 2020. Across advanced economies and EU members, which have long time series of general government data,
total government expenditure on environmental protection has barely changed in two decades (Figure 3.4).

While the average is low, there are some countries with proportionally higher expenditures. In 2018 there were 13 countries where spending on environmental protection exceeded 1 percent of GDP, and within that group three countries where expenditure exceeded 2 percent of GDP—the Marshall Islands, Nauru, and Palau. The 13 countries with greater than 1 percent of spending on environmental protection included other island countries, such as Kiribati, Malta, and Samoa. It may be no coincidence that these island countries, facing the very real danger of rising sea levels, are spending proportionally more on environmental protection. Some advanced economies are also spending more than 1 percent of GDP on environmental protection, including Belgium, France, Greece, Japan, and the Netherlands.

**LIMITATIONS AND PRIORITIES FOR FURTHER STATISTICAL DEVELOPMENT**

COFOG data are at best a useful proxy measure of government spending related to climate change. For a better understanding, alternative measures are under development.
Several novel classifications and methodologies have been designed to better estimate and report activities on expenditures related to the environment or to climate change. The milestone initiative has been the “Rio markers,” introduced by the Development Assistance Committee (DAC) of the OECD in 1998, with the aim to help “monitor development finance flows targeting the objectives of the Rio Conventions on biodiversity, climate change and desertification” (OECD 2011). Rio markers are not meant to help measure climate-specific finance flows, but rather provide a sense of how environmental and climate objectives are mainstreamed in donors’ development agendas. Applied on a voluntary basis by OECD Member States, Rio markers assess whether each donor activity targets mitigation, adaptation, or both as either a principal objective or a significant objective. OECD’s DAC is tasked with consolidating self-reported donor information.

The Rio markers have been used and adapted by multilateral development banks as a basis for their common principles adopted in 2015 to guide reporting on financial flows in support of climate change action. Both the World Bank and the United Nations Development Programme (UNDP) found inspiration in the Rio markers to develop methodologies for the identification of climate-related expenditures in the context of Climate Public Expenditure and Institutional Reviews (CPEIRs). In recent years, new methodologies have come to fruition, most notably the European Union Sustainable Finance Taxonomy (EU 2020), adopted in the context of the European Green Deal to help companies and investors better evaluate the environmental sustainability of their activities against six objectives. Nonetheless, Weikmans and others (2017) look into more than 5,000 aid projects that were marked by donors as adaptation-relevant for year 2012 and found that in over 70 percent of the projects there was either no clear relation to adaptation or not enough information to make a call.

Finding inspiration in these frameworks, several governments have developed their own green budget tagging (GBT) or climate budget tagging (CBT) methodology in recent years as an alternative way to account for expenditures contributing to environmental objectives. Budget tagging is a public financial management process that allows one to identify, measure, and monitor spending attached to policy areas that cut across existing expenditure classifications. GBT is a decade-old practice that is still relatively rare among world governments. It is, however, considered a key entry point for the greening of public financial management (Gonguet and others 2021) and public investment management (IMF 2021b).

There are now about 20 governments applying (or planning to apply) a GBT methodology, most of which have started the process in the past half decade. CBT methodologies first appeared in emerging and developing Asian countries in the early 2010s (Nepal in 2012, Indonesia in 2014, Philippines in 2015, Bangladesh in 2018), often as a follow-up to CPEIRs carried out with the support and guidance of development partners such as the UNDP and the World Bank. Advanced economies are new to GBT practices, with Ireland being the first OECD country to implement them since 2018, followed by France in 2020 (see Box 3.2). GBT transcends the administrative or functional classifications, but methodologies are largely country-specific, thus limiting data comparability. The focus of GBT is on environment- or climate-relevant expenditures, whatever the sector, function, or administrative entity. While COFOG or administrative classifications allow one to account for expenditures directly allocated to the environmental sector or ministry, GBT also considers expenditure items that contribute indirectly to environmental objectives, like investment in renewable energy or subsidies for carbon-efficient technologies. According to the OECD (2021b), governments planning to implement GBT face many critical design questions: defining what is green, deciding which budget measures to tag, developing a classification system, and identifying information needs. Yet, despite the

10 Climate change mitigation, climate change adaptation, the sustainable use and protection of water and marine resources, the transition to a circular economy, pollution prevention and control, and the protection and restoration of biodiversity and ecosystems.
Box 3.2. Green Budget Tagging in France

Green budget tagging (GBT) was introduced in France as of the 2021 budget bill (September 2020), building on the Organisation for Economic Co-operation and Development (OECD)–led Paris Collaborative on Green Budgeting (which France joined in 2017) to integrate “green” tools into the budget process.

Following methodological work done by an interagency working group, including Ministry of Finance and Ministry of Environment agencies, France’s green budget has four defining characteristics that make it the most comprehensive in the world to date. It (1) provides an assessment of the “green” impact of all state budget expenditures; (2) covers tax expenditures; (3) reflects not only concerns related to climate change, but also other environmental issues such as biodiversity and the fight against pollution, building on the European Union Sustainable Finance Taxonomy; and (4) rates not only expenditures favorable to the environment but also those with a negative impact.

In practical terms, the GBT exercise relies on extensive interactions between line ministries and the central budget authority as part of the budget preparation process. It examines, at a granular level, expenditures under the French performance budgeting framework to ascertain their contribution to environmental objectives. Actual “green” expenditures are tracked through the exploitation of budget execution reports but not through a specific tag in the financial management information system.

The second edition of France’s “Green Budget” produced as part of the 2022 budget bill, highlights that €42.0 billion of expenditures (1.6 percent of 2022 GDP), or €53.4 billion including tax expenditures (2.0 percent of GDP), have an environmental impact, out of a total of €586.6 billion for state budget and tax expenditures. Out of this total, €38.2 billion are rated as favorable to the environment, €4.5 billion as having a mixed impact (positive on one or several elements of the European Union Sustainable Finance Taxonomy but negative on one or several other elements), and €10.8 billion as having a negative impact (mostly tax expenditures lowering the cost of energy for some specific uses).

The budget execution law for 2021 includes for the first time data on actual “green” expenditures. For the budget year 2021, it is noted that €38.9 billion of incurred expenditures have an environmental impact, out of which €31.9 billion have a positive impact, while €4.0 billion have a mixed impact and €3.0 billion have a negative impact.

The methodology used for France’s green budget has a significantly broader scope than the Classification of Functions of Government definition of environmental protection expenditure, which highlights a total general government environmental protection public expenditure of 1.0 percent of GDP only for 2020 (Eurostat 2022).

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Source: Authors, based on French Ministry of Finance documents (France 2021, 2022).
Other important design choices include choosing the accounting method for environmental or climate-relevant expenditures and defining the scope to be covered by the tagging exercise. The estimation of environmental or climate-relevant expenditures is affected by the level of granularity at which the tag is applied—policies, programs, or activities—and by the scope of the tagging exercise. And there, too, solutions vary from one country to the next. Some governments only tag full programs for which the primary objective is explicitly environment- or climate-related, while others apply more granular weights that reflect the portion of the considered program or activity identified as relevant. As for the coverage of the tagging exercise, it can often be restricted to a predefined scope rather than being comprehensive. According to the World Bank (2021), out of the 19 governments already implementing a GBT framework at the time, eight governments focused on a few selected sectors or agencies, and five restricted tagging to the investment budget. Only four countries included transfers to state-owned enterprises as part of the exercise, and only one (France; see Box 3.2) included tax expenditures in the scope of its tagging exercise.

Contrary to COFOG, the implementation of a GBT methodology is usually driven by the agency in charge of running and facilitating the budget process—the Ministry of Finance or its equivalent. In most cases, tagging is integrated within the government’s budget process. Most countries currently implementing GBT or CBT focus their effort on budget preparation, with the objective to estimate the share of the proposed budget allocation that would contribute to meeting green or climate objectives. This usually requires line ministries to apply the tags when they prepare their budget submissions, according to a tagging methodology set by the agency in charge of the budget, often with the collaboration of environmental/climate agencies. This is a significant undertaking for governments, and its success largely depends on political leadership by the ministries of finance and on the level of buy-in by other government stakeholders. Supporting public financial management practices has also proven critical to the effectiveness of GBT systems (Gonguet and others 2021). About half of governments rely on their financial management information systems to tag green/climate expenditures, while the rest achieve the tagging exercise manually, making accounting a somewhat painstaking task.

So far, national GBT exercises have often been more programmatic in nature than focused on the transparent accounting of actual expenditures. According to the World Bank (2021), only a handful of governments report on actual tagged allocations after the budget year is over (for example, Bangladesh, Cambodia, Nicaragua), with France doing so for the first time in 2022 for the 2021 budget outturn (Box 3.2).

Alternative classifications and methodologies, such as the Rio markers and the initiatives inspired by them, or national GBT exercises, have allowed countries to transcend the constraints of existing functional or administrative classifications for the purpose of accounting for environmental or climate expenditures. Yet there are limitations that prevent these alternatives from providing sound cross-country data on green expenditures. Despite significant guidance from development partners, there is no internationally agreed-upon approach to defining expenditures that are beneficial or detrimental to the environment. This has led to a wide range of methodological choices in terms of definitions, coverage, and accounting methods.

Furthermore, transparency on the outputs of GBT is not systematic among governments implementing it, with almost half of governments not even referencing climate change in their budget documents, and only a few countries reporting on actual expenditures. To unleash the potential of tagging exercises for accounting purposes, efforts are needed to (1) align definitions for environmental or climate relevance of expenditures, (2) monitor the tag during budget execution, and (3) systematically report on actual expenditures.
CONCLUSION

This chapter discusses two important policy tools and shows how revenue from environmental taxes and government expenditures on environmental protection have changed over the past 25 years. It explains how these tools are defined and how relevant data are compiled, presents recent trends, and describes their limitations. We find that while many countries already produce useful data on revenue from environmental taxes and government spending on environmental protection, care must be taken when using this data in the context of understanding government actions to combat climate change.

New initiatives, like GBT and CBT, and broader reporting of climate change–related tax expenditures or revisions to COFOG methodology could provide further useful information to help policymakers and stakeholders better understand how government policy is responding to climate change. Emerging work on GBT could be enhanced and more widely adopted. The OECD Paris Collaborative on Green Budgeting was launched in 2017 and aims to design innovative tools to assess and drive improvements in the alignment of national expenditure and revenue processes with climate and other environmental goals. To this end, the OECD is working on a project to measure climate-related expenditures. In line with recommendations of the IMF’s Fiscal Transparency Code, more countries should also compile tax expenditure reports, ideally including some form of functional expenditure breakdown for each individual tax expenditure item. In the longer term, revisions to the COFOG standards should be considered to more easily identify climate change–related spending and to enable more comprehensive analysis by ensuring that analysis of spending, where the primary purpose is health or education, can nevertheless capture the secondary purpose of that spending when it relates to climate change.

REFERENCES


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