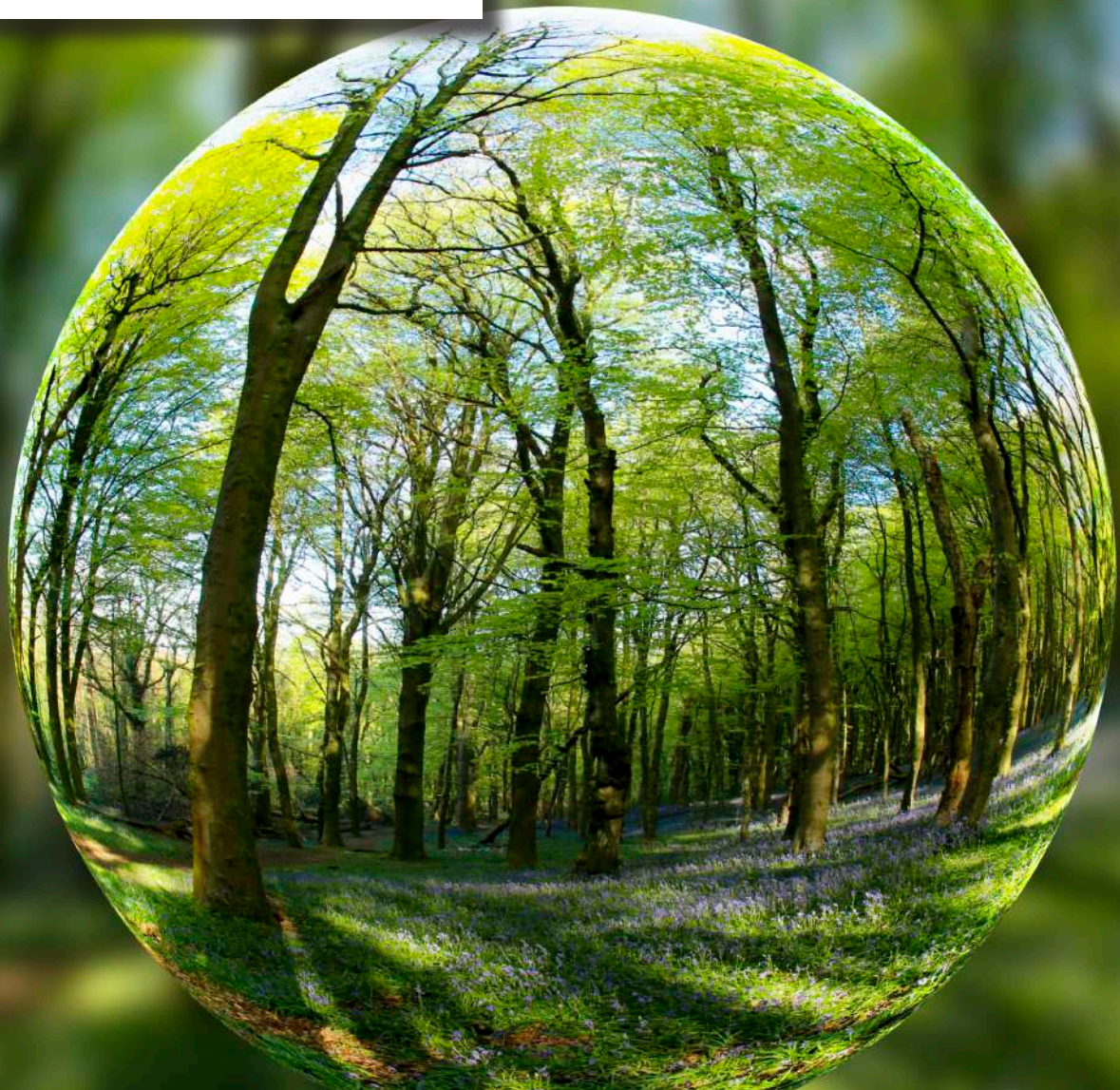


# Green Budgeting:

## Towards Common Principles

NOVEMBER 2021



**This paper** presents common elements of green budgeting, main underlying principles. It reviews the different tools and provides examples from the EU Member States. It is joint work of the European Commission, the International Monetary Fund and the Organisation for Economic Cooperation and Development.

## **DISCLAIMER**

The views expressed in this document are solely those of the author(s) and do not necessarily represent the official views of the European Commission, the International Monetary Fund (its Executive Board and Management) and the Organisation for Economic Cooperation and Development.

Authorised for publication by Lucio Pench, Director for Macroeconomic Policies.

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# Green Budgeting: Towards Common Principles

## Executive summary

Budgets are a crucial instrument for climate action and the green transition. Faced with the imminent environmental threats, governments are increasingly deploying or planning to deploy green budgeting to better align their policies with climate and environmental commitments. Green budgeting means using the tools of budgetary policymaking to help achieve climate and environmental goals. These tools are part of a country's annual and multiannual budgetary processes.

To support European governments in their development of green budgeting practices, the European Commission, the International Monetary Fund and the Organisation for Economic Co-operation and Development worked jointly to define main elements and features of these practices, on the basis of existing green budgeting frameworks. This work is presented in this paper.

While green budgeting can be pursued in various ways, some key components can ensure its effectiveness. More specifically, green budgeting is more efficient when:

- it is inserted in a strategic framework laying out a country's national plan and mission on climate change and the environment;
- it uses budgetary policy tools that contribute to evidence-based decision-making;
- it relies on an institutional design with clearly-defined responsibilities and a timeline for actions;
- it makes use of transparent reporting and independent oversight to ensure openness and accountability.

The paper also describes various tools that are being used to bring climate and environmental considerations into budgetary policy-making. These include: (i) the 'greening' of medium-term fiscal frameworks, highlighting linkages among the economy, fiscal policy and the environment; (ii) inserting climate change in fiscal-risk assessments and management; (iii) tagging budgetary items that contribute positively or negatively to the environment; (iv) policy evaluations and environmental impact assessments; (v) green spending reviews; and (vi) green accounting statements. Finally, elements of a sound institutional set-up are described, with particular attention to independent oversight. When feasible, the paper provides specific examples from the EU and OECD countries, as an illustration of what can be done and how.

Countries face a range of challenges when implementing green budgeting, including a lack of expertise, data and methodology to assess environmental effects, limited political will and a lack of resources. To support governments, international institutions have developed green budgeting frameworks, provide technical support and actively encourage the exchange of best practice. Further action to orient policies towards green outcomes could include fully developing green budgeting instruments while rebuilding fiscal buffers and budgetary positions.

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## ABBREVIATIONS

CCC	Climate Change Commission
CEPA	Classification of Environmental Protection Activities
CMAF	Climate Macroeconomic Assessment Program (IMF)
COFOG	Classification of the Functions of Government
COP26	Conference of Parties 26
C-PIMA	Climate Change Public Investment Management Assessment (IMF)
CRMA	Classification of Resource Management Activities
EC	European Commission
EHS	Environmentally harmful subsidies
EPEA	Environmental Protection Expenditure Accounts
ESST	Environmental Subsidies and Similar Transfers
EU	European Union
GHG	Greenhouse gas
ICPF	International Carbon Price Floor
IMF	International Monetary Fund
IPAC	International Programme for Action on Climate
NACE	Statistical Classification of Economic Activities
OBR	Office for Budget Responsibility (UK)
OECD	Organisation for Economic Co-operation and Development
PEDS	Potentially environmentally damaging subsidies
PFM	Public Finance Management
PIMA	Public Investment Management Assessment (IMF)
PSBS	Public Sector Balance Sheet
RRF	Recovery and Resilience Facility
RRP	Recovery and Resilience Plan
SDGs	Sustainable Development Goals
SNGs	Subnational governments
SOEs	State-owned enterprises
UN	United Nations

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# 1. INTRODUCTION

Climate change, biodiversity loss, pollution and environmental degradation are major, imminent threats facing our planet and our societies. As a result, the range of international initiatives now in place, notably the Paris Agreement and its aim to make financial flows consistent with a long-term, low-emission pathway, governments around the world are committed to pursuing co-ordinated action.

To advance national policies on climate and environmental goals, among the most important instruments that governments have at their disposal are the budget and fiscal policy more broadly. Budgets can perform a crucial role in improving the consistency of public revenue and expenditure with these goals. Such consistency helps governments reach their climate and environmental commitments and thus supports the transformation towards sustainable and resilient societies.

Green budgeting means using the tools of budgetary policymaking to help achieve climate and environmental goals. Green budgeting entails a systematic approach to assess the overall coherence of the budget relative to a country's climate and environmental agenda and to mainstream an environmentally-aware approach across all policy areas and within the budget process.

Many European countries are developing or plan to develop green budgeting practices and are keen to understand the experience of other countries in the region. Moreover, the experience of other European countries may be relevant and useful for countries in other regions pursuing similar practices. The European Commission (EC), the International Monetary Fund (IMF) and the Organisation for Economic Co-operation and Development (OECD) prepared this paper on green budgeting jointly to support this process. The paper contributes to the resources available to the Conference of Parties 26 (COP26).

The paper is organised into three main sections. Section 2 identifies the context within which governments are operating in relation to international commitments on climate and the environment as well as the implications of COVID-19. Section 3 discusses the concept of green budgeting and provides frameworks for applying and integrating green budgeting into a government's overall budget process. Section 4 considers budget institutions and instruments that are relevant to green budgeting and identifies a toolkit to support the evolution of green budgeting. Throughout the three sections, examples refer to practices from the EU and other OECD countries.



## 2. CONTEXT

This section identifies some of the international commitments and supporting arrangements that are available to governments and sets-out the relevant circumstances brought about by COVID-19. The material shows the increasing resources that are available to countries to help make progress towards climate change and environmental goals.

### 2.1. KEY INTERNATIONAL COMMITMENTS

#### *The Paris Agreement*

The Paris Agreement, adopted in 2015 within the United Nations Framework Convention on Climate Change, commits countries to keep the rise in global temperature below 2 degrees Celsius this century. The 190 countries who are party to the Agreement also commit to pursuing efforts to limit the temperature increase to 1.5 degrees Celsius. The Paris Agreement has acknowledged that public spending and decision making need to address climate change impacts (United Nations, 2015).

#### *The Sustainable Development Goals*

The United Nations Sustainable Development Goals (UN SDGs) were adopted in 2015 by 193 countries. Each goal contains targets and indicators that governments can use to measure progress towards that goal and several goals are directly or indirectly related to climate change and environmental goals, including:

- SDG 13, “Climate action” is directly related to climate change. It aims to “take urgent action to combat climate change and its impact” and focusses on the integration of climate change measures into national policies, the improvement of education, awareness-raising and institutional capacity on climate change mitigation, adaptation, impact reduction and early warnings.
- Other SDGs (in)directly related to climate change and environmental goals include SDG 6 “Clean water and sanitation”, SDG 7 “Affordable and clean energy”, SDG 11 “Sustainable cities and communities”, SDG 12 “Responsible consumption and production”, SDG 14 “Life below water”, and SDG 15 “Life on land”.

#### *The Convention on Biological Diversity*

The Convention was opened for signature at the Earth Summit in Rio de Janeiro on 5 June 1992 and entered into force on 29 December 1993. It has three main goals:

- the conservation of biological diversity;
- the sustainable use of its components;
- the fair and equitable sharing of benefits arising from genetic resources.

Its objective is to develop national strategies for the conservation and sustainable use of biological diversity, and it is often seen as the key document regarding sustainable development. The convention has two supplementary agreements, the Cartagena Protocol and the Nagoya Protocol (<https://www.cbd.int/>).

## 2.2. SUPPORTING ARRANGEMENTS

### *The OECD Paris Collaborative on Green Budgeting*

The OECD Paris Collaborative on Green Budgeting was launched in 2017 to help countries develop budgetary tools to progress towards national commitments on climate change and the environment. The Collaborative provides technical support to align national policy frameworks and financial flows towards lower greenhouse gas emissions and environmentally sustainable development.

### *The Coalition of Finance Ministers for Climate Action*

The Coalition of Finance Ministers for Climate Action brings together finance ministers and policy-makers from over 60 countries to lead the global climate response and secure a just transition towards low-carbon resilient development.

### *The IMF and Climate Change*

The IMF is supporting its global membership to address the challenges of climate change for which fiscal and macroeconomic policies are an important component of the appropriate policy response. Examples include:

- policy guidance such as the International Carbon Floor Price that could jump-start a reduction in GHG emissions (Parry et al. 2021, Box 11);
- the Climate Macroeconomic Assessment Program (CMAP) helps member countries integrate climate in macrofiscal frameworks, covering climate risk and preparedness, national strategy, mitigation, risk management, adaptation, and macroeconomic implications of climate policy;
- a framework for Green Public Financial Management (“Green PFM”, see Annex I) to support members in adapting existing PFM practices to support climate-sensitive policies;
- a Climate Change Public Investment Management Assessment Framework (C-PIMA, Box 4) to assess a country’s capacity to manage climate-related infrastructure from climate adaptation and mitigation perspectives.

### *The European Green Deal*

In December 2019, the European Commission presented the European Union (EU) Green Deal (European Commission, 2019). The plan sets out a roadmap to make Europe a climate-neutral, resource-efficient, circular and competitive economy by 2050, turn climate and environmental challenges into opportunities and ensure a just and inclusive transition. These goals require integrated actions on several fronts, including investing in environmentally friendly technologies and circular economy, supporting innovation, promoting cleaner transport, decarbonising the energy sector, ensuring more energy efficiency in buildings, progressing towards zero-pollution while preserving and restoring ecosystems and biodiversity. The Green Deal includes an explicit commitment to foster green budgeting practices in the EU. Within the actions launched under its Green Deal, the EU has adopted a Climate Law to set:

- the legal objective for the Union to reach climate neutrality by 2050;
- a target at least of 55% reduction in net emissions of greenhouse gases compared to 1990 by 2030;
- a commitment to negative emissions after 2050;
- the establishment of an independent European Scientific Advisory Board on Climate Change.

To deliver on these targets, the European Commission launched a package of proposals, the ‘Fit for 55’ package, to make the EU’s climate, energy, land use, transport and taxation policies fit for reducing net greenhouse gas emissions by at least 55% by 2030, compared to 1990 levels.

Additional actions include among others the EU Biodiversity strategy, which broadens the network of protected areas and steps up efforts in nature restoration, and a Farm to Fork strategy to make food systems more sustainable, the new Circular Economy Action Plan to strengthen sustainable consumption/production and to reduce pressure on natural resources, the Zero Pollution Action Plan for a non-toxic environment and the Renewed Sustainable Finance Strategy.

### 2.3. IMPLICATIONS OF COVID-19

**The recovery from the COVID-19 pandemic could represent an important opportunity in the global response to climate change and environmental degradation.** While fiscal policy around the globe is rightly focused on fighting the COVID-19 induced economic crisis, the way how countries do this will shape the environment and the climate in the longer run. This calls for fiscal policymakers to ‘green’ their response to this crisis by focusing policies and public investment projects on climate mitigation and adaptation and rebuilding fiscal and budgetary positions in an environmentally friendly manner. As such, the EU Recovery and Resilience Facility (Box 1), which was designed to support the recovery, requires EU Member States to address climate change objectives through their national action plans as a precondition to receiving funds. In addition, financial support from higher-income countries to low-income and vulnerable countries could be increased to support climate mitigation and adaptation.

#### BOX 1. NEXT GENERATION EUROPEAN UNION RECOVERY PLAN

In 2020, the European Union provided an unprecedented response to the COVID-19 crisis. The stimulus package of EUR 2.018 trillion that will help rebuild a post COVID-19 Europe, consists of the EU’s long-term budget for 2021 to 2027 of EUR 1.211 trillion and the Next Generation European Union Recovery Plan of EUR 806.9 billion, which is a temporary instrument designed to boost the recovery. The centrepiece of the strategy is the Recovery and Resilience Facility (EUR 723.8 billion) in loans (EUR 385.8 billion) and grants (EUR 338 billion) available to support reforms and investments undertaken by EU Member States for the recovery. At least 37% of these funds should support climate objectives, and Member States should prove that none of the reforms and investments negatively and significantly affects any environmental goal.

Source: Recovery plan for Europe.

**While efforts have been made by OECD-countries to orient recovery measures towards green outcomes, they appear to be still not sufficient to achieve long-term green objectives.** As shown by the OECD database on recovery measures (OECD, 2021a),<sup>1</sup> first, as more countries move from rescue to recovery, green measures bring only incremental environmental improvements. Secondly, except for energy and transport, there were missed opportunities in some sectors. Thirdly, opportunities for increased focus on innovation and skills linked to the environment should be increased. Finally, better ex-ante and ex-post assessment of the measures are needed, with closer links to green budgeting.

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<sup>1</sup> The OECD database tracks recovery related measures with environmental impacts across 43 countries (OECD, accession countries and key partners); it categorises measures according to the expected environmental impact (positive, negative, or mixed) across several environmental dimensions and allows analysis by type of measure, sector, and expected impacts.

## 3. COMMON ELEMENTS OF GREEN BUDGETING

### 3.1. APPROACH

**Countries use green budgeting to help achieve climate and environmental goals, ranging from climate mitigation to biodiversity and landscape protection<sup>2</sup>.** National budgets play an important role in prioritising and resourcing governmental policies and can have significant implications for the economy, the environment and society. Green budgeting integrates climate and environmental objectives into a country's budgetary and public financial management framework and practices.

**Green budgeting is a form of outcome-based budgeting.** It enables governments to generate evidence that informs decisions on the likely climate and environmental impacts of a budget. Other outcome-oriented approaches to budgeting sometimes refer to gender equality, poverty reduction, the UN SDGs or well-being. These approaches aim to embed systematic links between budget decision making and specific outcomes and entail refocusing resources towards cross-cutting strategic priorities (OECD, 2020a).

**Green budgeting can be pursued in various ways, there is no one-size-fits-all.** OECD and European Commission research (Box 2) confirms that there is significant variation in the tools and methods used for green budgeting across countries that participated in the European Commission-OECD survey (OECD, 2021b).

#### BOX 2. THE JOINT EUROPEAN COMMISSION-OECD SURVEY ON GREEN BUDGETING

In 2020, the European Commission and the OECD jointly conducted a survey to screen existing and planned green budgeting practices in the EU and OECD Member States. The survey covers a wide range of information, from institutional arrangements governing these practices to the various green budgeting tools and methods used and the related emerging experiences. It also reflects the most relevant challenges that countries are facing when implementing, or willing to implement, green budgeting practices. Finally, countries were asked to identify areas in which they considered supranational and international organisations like the European Commission or the OECD could provide guidance to support the creation or strengthening of national green budgeting frameworks.

The survey offers interesting insights into the experience of green budgeting practices in the EU and OECD countries. Based on the broad green budgeting definition of using the tools of budgetary policy making to achieve environmental goals, about 14 countries out of 39 were identified as having green budgeting practices in place, and 9 as planning to introduce some of these practices. Most frequent tools are ex-ante and ex-post environmental impact assessment, green budget tagging, environmental cost-benefit analysis and carbon assessments. The main driver for introducing green budgeting practices at national level is said to be that they help achieve international commitments. Most of the countries would like to receive support from the international organisations through the identification of international best practices, the organisation of meetings to share experiences, and development of international guidance.

Source: European Commission, 2021a.

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<sup>2</sup> Some international classifications aim to cover environmental objectives comprehensively, such as the Classification of Environmental Protection Activities (CEPA) and the Classification of Resource Management Activities (CReMA). More recently, the European Union taxonomy for environmentally sustainable activities considers six environmental objectives: climate change mitigation, climate change adaptation, sustainable use and protection of water and marine resources, transition to a circular economy with waste prevention and recycling, pollution prevention control, and the protection of healthy ecosystems (European Commission, 2020a).

## 3.2. COMMON COMPONENTS

**While the approach to green budgeting is often country-specific, common components underpin an effective green budgeting practice (OECD, Forthcoming\_b).** The components that are briefly discussed below, and described with more detail in section 3<sup>3</sup>, help to ensure that efforts remain effective over the medium term. Many of these elements are clearly relevant for performant fiscal framework and effective budgetary planning, more broadly.

### *Strategic framework*

As the first step in green budgeting, governments could set out their national plans and strategies on climate change (both for mitigation and adaptation) and the environment. Such plans and strategies help orient fiscal planning, guide public policy, investment and other decisions on revenue and expenditure to support green priorities. The strategic framework can include the scope of general government activity and budgetary items.

### *Tools and methods*

Green budgeting tools can contribute to informed and evidence-based decision-making and budget preparation, and strengthen monitoring, reporting and accountability. Such tools sit within a country's existing annual and multiannual budgetary processes.

### *Institutional design*

An enabling environment for green budgeting requires a strong institutional design where roles and responsibilities are clearly defined along with the timeline for actions and required deliverables and a well-designed legislative framework. While the finance ministries can take the lead in implementing the process, close collaboration and coordination with ministries responsible for the environment and climate change, or cross-cutting policies and other ministries is essential.

### *Reporting, transparency, and accountability*

Transparency and accountability are crucial values in the management of public resources. Within the budgeting and public financial management frameworks, communicating the progress of green budgeting reforms is essential as it informs stakeholders about the government's actions. Reliable and regular reporting of comprehensive, useful, and accessible information can be used by stakeholders, such as the parliament and citizens, in contributing to budget deliberations.

## 3.3. CHALLENGES AND OPPORTUNITIES

**OECD and EU countries face a range of challenges when implementing green budgeting.** The most common challenges relate to the lack of a methodology to assess environmental effects, lack of a modern multi-annual budgetary framework linked to strategic planning, lack of political will, lack of resources (time and staff), and lack of relevant knowledge and technical expertise (OECD, 2021b; European Commission, 2021a).

**To support governments around the globe, international institutions have developed green budgeting frameworks.** The green budgeting frameworks, such as the European Commission Green Budgeting Reference Framework (European Commission, 2021b), the IMF's Green PFM Framework

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<sup>3</sup> Section 3 also provides more detailed information about the key green budgeting tools and institutions.

(Gonguet et al., 2021), OECD's Green Budgeting Framework, contain similarities and complement each other. More detailed information can be found in Annex 1.

**International organisations, experts and forums also actively support countries to exchange and develop national best practices.** The OECD Paris Collaborative on Green Budgeting, the Coalition of Finance Ministers for Climate Action and the European Commission offer technical support for capacity building to the EU Member States and maintain repositories of information on green budgeting practices (Box 3 and Box 5). The IMF is providing technical assistance to its member countries, regardless of their capacity levels, in adapting national PFM networks to climate and environmental objectives, and in assessing a government's capacity to manage climate-related public investment from the adaptation and mitigation perspectives (C-PIMA, Box 4).

### BOX 3. EUROPEAN COMMISSION GREEN BUDGETING TRAINING

The European Commission has developed a technical support initiative to help Member States build administrative and technical capacity for developing a green budgeting framework at a national level. The training is provided through the Technical Support Instrument and supports the alignment of the current or planned national green budgeting practices with the European Commission's Green Budgeting Reference Framework (European Commission, 2021b). The initiative targets staff of the ministries responsible for the climate and environmental aspects of the national budget. In 2021, 23 Member States participated in this training. The training comprises three modules:

- Module 1 defines green budgeting and provides an overview of existing green budgeting frameworks and national practices. It also provides some basics on performance budgeting and green tagging.
- Module 2 consists of case studies that are tailored to the specific needs of each Member State. The case studies provide an understanding of the main methods and challenges of identifying expenditure, tax expenditure and revenue that are relevant to climate and environmental objectives.
- Module 3 is a country-specific guided diagnostic/self-assessment of institutional settings and capacities, and concludes with recommendations on areas of improvement.

Source: [Green Budgeting: a key driver to meet the environmental ambition of the European Green Deal](#).

### BOX 4. IMF'S CLIMATE CHANGE PUBLIC INVESTMENT MANAGEMENT ASSESSMENT (C-PIMA)

Recognising the criticality of infrastructure governance of countries to fulfil climate mitigation and adaptation commitments, the IMF is adding a climate module to its public investment management assessment (PIMA) tool. The PIMA is a comprehensive framework to assess infrastructure governance for countries that has been conducted in over 65 countries across all regions and income levels. The C-PIMA module extends the existing framework with a focus on institutional settings that are most critical to address climate issues in public investment management. It assesses a country's capacity to manage climate-related infrastructure from the adaptation and mitigation perspectives, and assesses the following key dimensions of a public investment management framework:

- Climate-aware planning: How is public investment planned from a climate change perspective?
- Coordination between entities and across the public sector: Is there effective coordination of decision making on climate change-related public investment across the public sector?
- Project appraisal and selection: Do project appraisal and selection include climate related analysis and criteria?
- Budgeting and portfolio management and oversight: Is climate-related public investment spending subject to active management and oversight?
- Risk management: Are financial and fiscal risks relating to climate change and infrastructure incorporated in budgets and fiscal risk analysis and managed according to a plan?

#### BOX 5. OECD'S INTERNATIONAL PROGRAMME FOR ACTION ON CLIMATE

In 2021, the OECD established the International Programme for Action on Climate (IPAC) to assess and support progress towards net-zero greenhouse gas emissions and a more resilient economy by mid-century. To support these global objectives, IPAC will provide the information and tools to monitor, evaluate and support the effectiveness of participating countries' actions, enable the sharing of best practices and provide targeted policy advice complementary to the United Nations Framework Convention on Climate Change and the Paris Agreement. IPAC is structured around four components:

- A dashboard composed of climate-related indicators to provide an overview of countries' progress and trajectories.
- An annual climate action monitor, based on the dashboard and supported by a policy framework, to provide a digest of countries' progress towards their own climate objectives and their alignment with Paris Agreement goals.
- Country notes with targeted policy advice to assist in the design of the coherent and phased mitigation and adaptation actions that are economically viable and sound.
- An interactive platform for dialogue and mutual learning across countries. The platform is to propose topics for discussion on innovative approaches and good practices.

## 4. KEY GREEN BUDGETING TOOLS AND INSTITUTIONS

**Green budgeting tools and institutions help gather evidence on how budget measures impact environmental and climate objectives.** Green budgeting encompasses several tools to bring climate and environmental considerations into budgeting and fiscal policies, and sit within a country's existing annual and multiannual budgetary processes. This chapter presents more information about key green budgeting tools and institutions that are implemented by various governments drawing on examples from EU and OECD member countries.

#### BOX 6. DENMARK – THE GREENREFORM PROJECT

Climate is a political priority in Denmark. In 2020, the Danish parliament passed a climate law with a commitment to reducing greenhouse gas emissions by 70% (compared to 1990 levels) by 2030. The Danish Minister of Finance has positioned the green transition as a core policy priority for the Ministry of Finance.

Denmark is developing a macroeconomic model, GreenREFORM, to enable the fiscal and economic planning to support the green transition. The model is designed to assess the economic and fiscal impacts of climate and environmental policies, and the climate and environmental impacts of economic policies.

GreenREFORM describes the energy use and emission of pollutants in the Energy and Air Emissions Account produced by Statistics Denmark from all Danish businesses, households, and the public sector. Furthermore, the model describes the effect on emissions from environmental taxes, subsidies, and other regulations. The model produces annual projections to 2100, which provides a platform for medium-to-long-term fiscal and economic analysis. The projections allow an assessment of the effect of future economic developments on the climate and environment and whether these developments are consistent with climate and environmental targets. This functionality will enable Denmark to position climate and environmental policy centrally in the preparation of its medium-term fiscal framework.

## 4.1. MEDIUM-TERM FISCAL AND BUDGETARY FRAMEWORKS

**Medium-term frameworks provide a logical home for climate and environmental objectives.** Climate and environmental goals are set in a medium-term context that comprises short-term and long-term goals that are consistent with climate change and environmental strategies. Climate and environmental outcomes are also increasingly recognized as ‘macro-critical’<sup>4</sup> because mitigating, and adapting to, climate change can reduce risks to economic growth and long-term fiscal sustainability. Green outcomes can also be responsive to fiscal policy. For example, expansionary fiscal policy could lead to higher emissions if offsetting policies are insufficient. Ultimately, economic growth should be decoupled from GHG emissions, resource use and pollution.

**The greening of medium-term frameworks provides an opportunity to integrate climate and environmental forecasts within macro-fiscal forecasts.** The government’s capacity to estimate the quantity and impact of climate-related spending over the medium term and then link these estimates with a baseline of sound macroeconomic and fiscal forecasts is crucial to green budgeting. However, with a few notable exceptions (Box 6) (OECD, 2021d), many existing macro-fiscal forecasting models in the EU and OECD are not designed to account for economic, budgetary, and financial costs resulting from climate change. Developing forecasting tools that capture the linkages between fiscal policy, the economy, and the environment could be prioritised as climate and environmental objectives are elevated in the budget.

## 4.2. FISCAL RISK MANAGEMENT

**Climate change presents governments with a large and diverse range of fiscal risks and should inform budgetary strategy.** These include risks linked to climate- and weather-related events, such as floods and storms that damage property or disrupt trade, and the risks of substantial valuation changes to assets as policies and technology adjust to mitigate or adapt to climate change (Radu, 2021).<sup>5</sup> Other forms of environmental degradation also pose fiscal risks to governments, such as rising sea levels, land erosion the loss of marine and land biodiversity, which could undermine the ecosystems that often support large sectors of the economy.<sup>6</sup> The destruction of biodiversity is also one of the leading causes of infectious disease outbreaks and pandemics (OECD, 2021c).

**To ensure the fiscal framework remains credible and mitigates negative contingencies, governments need to analyse and manage the risks related to climate change and environmental degradation.** Climate change and related policies affect public debt sustainability risks. As the frequency and intensity of extreme weather events rises worldwide, they increasingly lead to large economic losses that are shared by the public and private sectors. Larger losses for the public sector come with the risk that governments may not be able to direct their resources to more productive uses, which could hamper economic recovery and growth. Fiscal policy responses to climate change-related

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<sup>4</sup> For instance, see remarks by the IMF Managing Director to the Coalition of Finance Ministers for Climate Action in 2020 at <https://www.imf.org/en/News/Articles/2020/10/12/sp101220-managing-director-remarks-to-the-coalition-of-finance-ministers-for-climate-action>.

<sup>5</sup> The United Kingdom’s Fiscal Risks Report (OBR, 2019) presents a helpful distinction between the physical and transition risks related to climate change, building on the Bank of England’s (2018) framework for assessing climate risks.

<sup>6</sup> For biodiversity-associated risks, see e.g. the Dasgupta Review prepared for the UK’s G7 Presidency in 2021 by Professor Dasgupta of Cambridge University <https://www.cam.ac.uk/stories/dasguptareview>.



weather events tend to increase general government deficits and debts, often beyond what is anticipated in budgetary documents (European Commission, 2020b).

**Governments have access to several tools to assess and manage these types of fiscal risks.** By distinguishing between unanticipated shocks such as extreme weather events and the gradual transformation of the environment, governments can develop an understanding of the exposure and vulnerability of public and private assets, activity and networks to future sudden impact and gradual onset disasters. Governments can start with a historical analysis of losses from the various types of disasters they are typically exposed to and identify and assess risks driven by climate change. The results of this type of analysis should inform and be integrated into the fiscal strategy, medium-term budget frameworks and the Public Sector Balance Sheet.

**Macro-fiscal scenario analysis and fiscal stress tests can be particularly helpful tools in analysing and managing fiscal risks related to climate change.** Macro-fiscal scenarios should consider the probability of plausible climate change scenarios that can, in turn, be used as the basis for fiscal stress-test exercises<sup>7</sup>. Scenarios and stress tests can help governments manage these risks more effectively, both by demonstrating the need for prevention and risk mitigation efforts and by ensuring the fiscal space is available to respond rapidly in the event of a risk realisation. Dedicated funds and instruments can help to facilitate this response<sup>8</sup>, as can maintaining sufficient fiscal space to absorb losses. Budget documentation should include elements on fiscal risks related to climate change and natural disasters, ideally as part of a fiscal risk statement or chapter.

**Frameworks for understanding, managing, and disclosing climate change related fiscal risks are becoming increasingly important and necessary.** Climate change acts as an amplifier of natural disasters and the increasing occurrence and intensity of such events call for reflection on how to deal with this challenge (Radu, 2021). Disaster risk management frameworks can better inform decision-makers about climate-related fiscal risks, while disaster risk financing strategies can limit climate-related disasters impacts on public finances. Governments should look to build an accurate view of the explicit and implicit liabilities from natural disaster risks, especially when there is an expectation that they act as the insurer or relief provider of last resort. A variety of modelling and assessment tools can be used to estimate the economic and fiscal impacts of disasters, including Monte Carlo simulation, probabilistic disaster risk modelling, and stochastic analysis (Cevak and Huang, 2018). The results of disaster risk analysis should be used to build financial resilience to withstand both the immediate and long-lasting effects of disasters on public finances (Box 7)<sup>9</sup>.

**Long-term fiscal sustainability analysis should be broadened to consider the risks from climate change and environmental degradation.** Long-term fiscal sustainability analysis has typically focused on the burden of demographic change on public finances. However, the fiscal consequences of climate change are an increasing concern in many countries. Climate change may lead to higher public expenditures related to the reconstruction of infrastructure or disaster relief transfers. It may have adverse economic effects that reduce the tax base and thus lower tax revenues. These fiscal consequences of climate change are of special interest to governments around the globe, given that demographic change will already place a large burden on public finances in the coming decades. Long-term fiscal sustainability analysis that accounts for climate and environmental factors can help identify

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<sup>7</sup> See IMF (2016) for a description of the Fiscal Stress Test and best practices for assessing and managing fiscal risks.

<sup>8</sup> In the European Union, the EU Solidarity Fund can contribute to post-disaster emergency and recovery operations. This must include as a minimum “build back better” considerations.

<sup>9</sup> Also underlined in the New EU Strategy for adaptation to climate change: European Commission (2021), Communication of 24 February 2021, COM (2021) 82 final. <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM%3A2021%3A82%3AFIN>

the savings from early mitigation and adaptation efforts that might otherwise appear fiscally burdensome (OECD, 2021c).

**The inclusion of climate change or environmental risks in long-term fiscal sustainability analysis can take different forms.** A useful first step is to highlight the issue qualitatively and briefly to demonstrate awareness of the issue. Further steps can be taken to go beyond a qualitative assessment, even if they are initially limited to selected channels that are easier to quantify. Building this approach over time will ideally lead to a more comprehensive understanding of the fiscal impacts of climate change.

#### BOX 7. MANAGING FISCAL RISKS FROM NATURAL DISASTERS IN THE EU

Robust and effective disaster risk management frameworks and disaster risk financing strategies that support adequate and timely government responses contribute to reducing the fiscal cost of natural disasters. Relief and reconstruction after extreme weather and slow-onset events will increase government expenditure, including via compensation for uninsured losses. The subsequent effects on production capacity are also likely to have a negative impact on economic growth, eroding government revenue.

Several main features fostering robustness and effectiveness emerge from good practices. First, advanced risk information and quantification of risks should be available to relevant stakeholders. This is key to determine the financing needs and the financing gap. In the EU, national risk assessments are the main tool informing policymakers about national disaster risks, although their content is heterogeneous and quantitative information is scarce. Second, the authorities dealing with disasters, ex ante and ex post, should receive resources commensurate to their expected needs. Finally, disaster risk financing should rely on a mix of budgetary resources and risk-sharing instruments and private and public insurance adapted to the frequency and severity of disasters.

However, only a few national fiscal frameworks in the EU include climate change and natural disaster fiscal risks. In the past, the EU Member States have relied largely on budgetary tools and ex post ad hoc solutions, but such practices need to be reconsidered in light of the future climate-related challenges. In practice, these elements would translate into encompassing fiscal frameworks, risk prevention and disaster risk financing strategies and risk budgeting. The national dimension is a dominant feature in these processes, but regional cooperation also provides valuable risk information and disaster risk management tools that enhance national and regional resilience to natural disasters.

Source: Radu, 2021.

**The quantification and management of environmental and climate change related risks should be transparently disclosed.** The IMF's Fiscal Transparency Handbook (IMF, 2018) identifies natural disasters as key risks that should be quantified and disclosed in budget documents such as a Fiscal Risk Statement. The OECD Recommendation on Budgetary Governance (OECD, 2015) also calls on governments to "classify by type" their fiscal risks, with proposals on the methodological approach to estimating them. However, few countries consider climate or environmental risk in their fiscal risk statements, fiscal sustainability assessments or similar fiscal reports. Only 20% of European countries assessed under the IMF Fiscal Transparency Evaluation published quantitative information on environmental fiscal risks.

### 4.3. GREEN BUDGET TAGGING

**Green budget tagging classifies budget measures according to their climate and environmental impact and can enhance the transparency of a government's green actions (OECD, 2020b).** The tool can provide a first step in assessing the relationships between the budget and climate and environmental goals. It identifies expenditure, revenue, and tax expenditure in the budgets and assigns a 'tag' based on their relevance to climate or environmental objectives.

#### BOX 8. TAGGING GREEN AND BROWN BUDGETARY ITEMS

To support Member States in developing their own green budgeting practices, the European Commission produced two lists of budgetary items whose net environmental impact could be considered broadly as 'green' or 'brown'. These lists are meant to be only indicative and not comprehensive, providing some key examples of such measures. As such, they could serve as a starting point for countries in developing their own tagging methodology.

The structure of the lists loosely mirrors the classification of the functions of government (COFOG). This ensures a large coverage of government functions and provides adaptability to the Member States' different budgetary structures. The lists report selected budgetary measures encompassing expenditure, tax expenditure and revenue. Measures are grouped within 'sectors' (i.e., broad functions of the government), 'categories' and then 'subcategories.' For example, the sector 'transport' contains the category 'transport infrastructure', with one subcategory being 'sustainable and low carbon railways.'

The lists have been compiled drawing on information from specific Member States' budgets and environmental subsidies reports, the EU budget and various OECD and EU datasets.<sup>(i)</sup> They have been discussed with experts and statistical representatives from Member States. These lists will be uploaded on the green budgeting platform of the European Commission and will be updated on a yearly basis taking into account further developments, including in the environmental accounts and statistics.

<sup>(i)</sup> <http://www.oecd.org/environment/indicators-modelling-outlooks/policy-instrument-database/>  
<https://ec.europa.eu/eurostat/documents/1798247/6191549/EGSS+list+of+env+products.xlsx>  
[https://ec.europa.eu/eurostat/statistics-explained/images/0/0e/National\\_tax\\_lists\\_20210203.xlsx](https://ec.europa.eu/eurostat/statistics-explained/images/0/0e/National_tax_lists_20210203.xlsx)  
<http://www.oecd.org/fossil-fuels/>

**Countries tend to take an adaptive approach to green budget tagging, allowing the scope and processes to evolve as capacities increase over time.** Most countries start by identifying expenditures that have an explicit relationship with green objectives (Box 8). Some countries also tag revenues and budget lines that impact green objectives negatively. For example, France, Ireland and Italy tag items with a potential environmental impact. In doing so, Ireland implements a binary weighted approach, where the entire cost of a measure is tagged as green or not, while France and Italy implement a scaled approach to determine the green content of a measure (Bova 2021; OECD, 2020b). For the EU budget, the tracking applies to climate and biodiversity, and builds on the existing OECD Rio Markers methodology (OECD, 2019a), i.e., a 100% marker applies when climate action is the primary goal; a 40% marker applies when the expenditure is only partially climate-related; and a 0% marker applies when the item has no climate related content. The tagging methodology is conducted at the most granular level possible (i.e., at the actions and grants level) and integrates elements of the EU Taxonomy for sustainable activities (European Commission, 2020a). More specifically: (i) compliance with the Taxonomy can allow for a higher climate contribution marker (from a 40% marker to 100%

marker); and (ii) compliance with the ‘do no significant harm’ principle is required.<sup>10</sup> Approaches vary depending on the main reason for implementing green budget tagging. Over time, a convergence of approaches may emerge that would support cross-country comparisons and analysis.

#### BOX 9. CURRENT AVAILABILITY OF A COMMON DEFINITION OF GREEN REVENUE AND EXPENDITURE

Definitions and methodologies for identification and tagging of revenue and expenditure with an impact on the environment could be further enhanced.

On the revenue side, the established approach to trace environmental taxes has some limitations. An environmental tax is defined as a tax on a base with a negative impact on the environment. This is further broken down into energy, transport, pollution and resource taxes.(i) However, to fully grasp the environmental impacts of fiscal policy (i.e., the ‘green content’ of a tax) a more granular examination would be warranted, as some taxes may contain non-green items. In addition, taxes introduced for other purposes than ‘green’ are not taken into consideration, even though they could have an environmental impact (e.g., a tobacco tax introduced for health policy purposes contributes to cleaner air). Data on non-tax environmental revenues such as fees, tolls and administrative charges associated with environmentally harmful activities is not systematically available.(ii)

On the expenditure side, three datasets can support, and benefit from, further work on green budgeting. First is the Classification of the Functions of Government (COFOG) (Eurostat, 2019) database which traces government expenditure whose primary purpose is environmental protection (COFOG division 5). However, this leaves out some important resource management and climate related activities, such as ‘fuel and energy’ which falls in ‘economic affairs’. Second are the environment protection expenditure accounts (EPEA) designed as satellite accounts to the national accounts data which, thus, serve specific needs for data on sectoral supply, use of environmental protection services and related products and expenditure on environmental protection. EPEA use the Classification of Environmental Protection Activities and Expenditure (CEPA) (Eurostat, 2020). Third, Eurostat collects data on environmental subsidies and similar transfers (ESST), submitted on a voluntary basis. The ESST database collects information on current and capital transfers by institutional sector and by the Statistical Classification of Economic Activities in the European Community (NACE) of the recipient. Data are broken down by type of activity following CEPA and the classification of resource management activities (CReMA). Data for the period 2011-2018 were published, for the first time, in June 2021.

<sup>(i)</sup> In 1997, the European Commission (including Eurostat), the OECD and the International Energy Agency developed the first harmonised statistical framework for environmental taxes.

<sup>(ii)</sup> Nonetheless, Eurostat collects information on other environmentally related payments to government (fees and charges). Still, only few countries report this type of data and this is not published by Eurostat.

**Few Member States have incorporated in their Recovery and Resilience Plans measures to support the development and implementation of green budgeting practices.** For instance, Austria plans to create a focal point in the Ministry of Finance responsible for implementing green budgeting standards in the budgetary process and conduct climate-related impact assessments. Spain plans to prepare a ‘green’ report to accompany the annual budget, mapping both green and brown expenditure items and France envisages to expand the scope of the analysis to other expenses. Italy plans to re-classify the general State budget, with reference to the environmental expenditure, according to the Sustainable Development Goals and targets of the Agenda 2030, and Slovenia plans to develop and implement a methodology for assessing (and tag) the impact of individual budget lines on environmental objectives in line with the EU Taxonomy.

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<sup>10</sup> Such a methodology is already being used for climate and environment tracking within the Recovery and Resilience Facility <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32021R0241&from=EN>.

**There is no globally recognised standard that sets out definitions of government (tax) expenditure and revenues related to green commitments.** Existing standards such as the Classification of the Functions of Government (COFOG) and Environmental Protection Expenditure Accounts (EPEA) mainly enable governments to collate information on spending related to certain green commitments, like environmental protection expenditure, but do not make it possible to assess how much expenditure and revenue contribute to the achievement of green commitments (Box 9). Moreover, the lack of an established definition of environmentally harmful expenditure highly limits comparability<sup>11</sup>.

**Emerging lessons have highlighted key challenges in the implementation of green budget tagging.** These include identifying the appropriate level of granularity for tagging; assessing those budgetary measures that contribute to more than one environmental objective at the same time; balancing trade-offs across environmental, social and economic objectives; and accommodating the moving targets of environmental pressures (Bova, 2021; OECD, 2020b). Budget tagging requires sound judgements across government, even when there may be incentives to ‘greenwash’ or underestimate relevant budget items as part of the process. As such, it is important to ensure that tagging decisions are open to scrutiny, both internally and externally, with opportunities for oversight by the supreme audit institution, parliament and civil society as part of the larger effort (OECD, 2020b).

#### 4.4. PERFORMANCE AND IMPACT ASSESSMENTS

##### 4.4.1. Performance frameworks

**Performance frameworks enhance the effectiveness of public policy by linking inputs to socio economic outcomes.** Within these frameworks, performance budgeting is the systematic use of performance information in budget decisions. This can be conducted as an input to budget allocation decisions and as contextual information for budget planning. It can provide transparency and accountability throughout the budget process, by providing information on the purposes of spending and the results achieved (OECD, 2019b).

**Performance budgeting supports green budgeting.** Well-developed performance budgeting frameworks facilitate green budgeting through the measurement of results and outcomes. Performance budgeting is usually underpinned by a programme structure of the budget, which facilitates the implementation of green budgeting as it identifies how expenditure is organised relative to the government’s policies.

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<sup>11</sup> Eurostat’s environmental subsidies and similar transfers (ESST) guidelines includes a reference to ‘potentially environmentally damaging subsidies’ (PEDS) (Eurostat, 2015) – “subsidies and similar transfers that support activities considered environmentally damaging”. These transfers may or may not (i.e., ‘potentially’) have a harmful impact on the environment, and they are often referred to as ‘environmentally harmful subsidies’ (EHS). However, the guidelines do not provide a method for data collection on PEDS, nor is there an agreed definition on such subsidies.

#### 4.4.2. Policy evaluations

**Ex-ante policy evaluation and impact assessment contribute to policy development by better informed policy design and decision-making.** Requiring environmental impact assessments to accompany new budget measures allows governments to incorporate considerations on the impact of measures on climate or environmental goals alongside considerations on efficiency (Box 10).

##### BOX 10. IMPACT ASSESSMENT PRACTICES IN THE EUROPEAN UNION MEMBER STATES AND THE UNITED KINGDOM

In **France**, the Yellow Book on the Environmental Impacts of the State Budget contains an assessment of the adequacy of planned investments vis-à-vis identified spending needs for the ecological transition. It also features information on the tax system, its impacts on environmental objectives and economic agents.

**Italy** presents in the context of its Stability Programme a Climate Annex that provides assessments of how policies are meeting emission reduction targets and presents the effects of specific measures included in the National Energy and Climate Plan. Italy also prepares an annex on well-being and sustainable development with climate related indicators and land protection indicators.

In **The Netherlands**, through the Dutch Multi-Year Programme for Infrastructure, Spatial Planning, and Transport the government provides guidance to analyse the potential effects of potential public investments on climate change mitigation and adaptation, a carbon-neutral energy system, circular economy, climate adaptation, environmental sustainability, and healthy living environment. For this, the government utilizes the research and policy analyses from independent knowledge institutions such as the PBL Netherlands Environmental Assessment Agency and the CPB Netherlands Bureau for Economic Policy Analysis. Apart from evaluating government policies, PBL, upon request, also assesses the the climate- and environmental impacts of political parties' election plans.

In the **United Kingdom**, the Green Book is issued publicly by HM Treasury and provides information on how to appraise policies, programmes and projects by providing guidance on the design and use of monitoring and evaluation before and after implementation. This ranges from policy and programme development, taxation and benefit proposals to changes to existing public assets and resources. In particular, it provides an integrated approach to the assessment of climate mitigation, transition and other sustainability considerations across all government programmes.

Source: Bova, 2021; Hm Treasury, 2018.

**By monetising environmental externalities during ex-ante evaluation, measures with a negative impact on green objectives would become more expensive than measures with a positive impact.** Pricing environmental costs or GHG emissions could not only be a centrepiece in national climate policies (Box 11), but environmental costs or GHG prices can also be used in ex-ante evaluations such as cost-benefit analysis or green public procurement.

##### BOX 11. CARBON PRICING AND THE IMF'S INTERNATIONAL CARBON PRICE FLOOR (ICPF)

Carbon pricing is an instrument that captures the external costs of GHG-emissions, the costs of emissions that the public ultimately pays for and ties them to a price on the CO<sub>2</sub> emitted. Governments are increasingly using carbon pricing in ex ante policy evaluations to quantify the direct and indirect costs of climate change policies and measures. By making polluting energy sources more expensive than clean sources, carbon pricing provides incentives to improve energy efficiency and to re-direct innovation efforts towards green technologies.

To reinforce the Paris Agreement, the IMF provided its membership with policy guidance to introduce an International Carbon Price Floor (ICPF), considering that differentiated by national income levels and initially aiming at the world's largest emitting countries, the ICPF could jump-start emissions reductions (Gonguet et al., 2021).

**Ex-post impact assessments and evaluations are crucial for a government to understand how measures have affected the achievements of green commitments.** Introducing ex-post impact assessments and evaluations enables governments to understand the appropriateness of the intervention design, the cost and efficiency of the intervention, its unintended effects, and how to use the experience from previous or ongoing interventions to improve the design of future interventions (Box 12). The accumulation of policy lessons learned from these instruments helps to benchmark practices regarding the content of tools and the quality of implementation. Yet, OECD research also indicated that only around a third of OECD countries (12 in total) had environmental impact assessments as part of their policy development process.

#### BOX 12. GREEN PERFORMANCE FRAMEWORK FOR THE EU BUDGET

The EU budget has a very strongly developed framework for measurement and reporting on performance, which includes green aspects. The Commission reports progress towards the climate and environmental objectives for the previous year, as planned in its 7-year Multiannual Fiscal Framework, in the Annual Management and Performance Report. This report contains a ‘Programme Statement’<sup>(i)</sup>, with specific sections on climate and biodiversity highlighting how the various programmes contribute to the green priorities and clear explanations on the methodologies applied. The Statement also contains a set of key achievements that provide more timely information on how the projects are contributing to the key objectives, enhancing more constructive policy discussions. Midterm evaluations of major programmes and overall ex-post evaluations, three years after completion of each programme, are also conducted. The latter feed into the structure of the following budget and its programmes, including for the green areas. More recently, the evaluation process defines core performance indicators linked closely to programme objectives, together with a description of their technical characteristics, milestones and targets for better monitoring.<sup>(ii)</sup> It also applies the ‘do no significant harm’ principle from the EU Taxonomy Regulation for all budgetary items.<sup>(iii)</sup>

(i) [draft-budget-2020-wd-1-web-1.4.pdf \(europa.eu\)](#)

(ii) [db\\_2021\\_programme\\_statement\\_introduction.pdf \(europa.eu\)](#)

(iii) <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32020R0852&from=EN>.

**The impact of green budgeting itself should also be evaluated.** Green budgeting processes are relatively new, and many governments are developing different kinds of green budgeting tools and methodologies. Through monitoring and evaluating the effects of green budgeting on decision-making, governments become more able to strengthen their green budgeting tools and framework and progress towards green objectives.

**Systematic evaluation of green budgeting could focus on increasing the relevance and fulfilment of its objectives, its efficiency and effectiveness, impact, and the sustainability of the framework.**

As explained in Box 13, the OECD evaluation criteria could provide a useful starting point for governments to evaluate the effects of green budgeting.

**BOX 13. EVALUATION CRITERIA**

The OECD evaluation criteria provide a normative framework to determine the merit or worth of an intervention such as green budgeting. The criteria can be used to identify evaluation questions, with each criterion providing a different perspective on the intervention, its implementation, and its results.

- **Relevance.** The extent to which the intervention objectives and design respond to beneficiaries, global, national, and partner/institution needs, policies, and priorities, and continue to do so if circumstances change.
- **Effectiveness.** The extent to which the intervention achieved, or is expected to achieve, its objectives, and its expected results.
- **Impact.** The extent to which the intervention has generated, or is expected to generate, significant positive or negative, intended or unintended effects.
- **Coherence.** The compatibility of the intervention with other interventions in a country, sector or institution.
- **Efficiency.** The extent to which the intervention delivers, or is likely to deliver, results in an economic and timely way.
- **Sustainability.** The extent to which the net benefits of the intervention continue or are likely to continue.

#### **4.4.3. Green spending reviews**

**Impact assessments could be complemented by green spending reviews (OECD, Forthcoming\_a).**

A green spending review is a process that examines a government's baseline expenditure to assess the extent to which the expenditure aligns with the current government's policies on climate change and the environment. From the assessment, a green spending review is used to formulate options that would help the government achieve its policy goals and international commitments on climate change and the environment.

**As a prerequisite, the design and implementation of spending reviews should follow best practices.** These would include a clear strategic mandate specifying the objectives (potentially including quantified targets), the scope (a significant share of general government spending across several policies) and a centre of coordination, the use of pilots to build expertise, the provision of adequate resources and access to data, the use of guidelines for consistency in producing diagnosis, baselines, reform options and implementation roadmaps, and the use of fact-based analysis linking spending across budget and administrative structures to policy outcomes.

**To help prioritise investments that support environmental goals, spending reviews should consider environmental dimensions alongside efficiency and effectiveness.** A number of countries in the EU have found it useful to develop such processes, whereby spending is analysed not only in terms of value for money but also through the lens of contributing to green commitments (Box 14). The green spending review approach aims at increasing the value delivered for each public euro spent by optimising the mix between public funding and green impact.



#### BOX 14. EXAMPLES OF GREEN SPENDING REVIEWS IN EUROPEAN COUNTRIES

**Austria:** The Federal Ministry of Finance has introduced gradually a green element to spending reviews as an additional tool of budgetary analysis and flexibility. As a first step green spending reviews are used for identifying efficiency and effectiveness potentials for a limited number of programmes.

**Ireland:** In 2019 the Department of Public Expenditure and Reform undertook and published a spending review of all the government incentives available to support the take-up of electric vehicles.

**Greece:** In 2019, a green dimension was added to spending reviews during a spending review pilot exercise. The spending review objective was to control and reduce energy consumption across the general government. In preparation for the pilot, government entities were asked to complete a template indicating current energy consumption and listing the potential actions they could take to reduce consumption. Recommendations ranged from digitalising government documents to reducing water consumption.

**The Netherlands:** The government has completed several spending reviews linked to climate adaptation, climate mitigation and environmental policy. In the Netherlands, spending reviews are used to identify policy options that increase efficiency of policy however, the government also uses spending reviews to generate new policies.

#### 4.5. ACCOUNTING AND REPORTING

**Although green budgeting and statistics can serve different primary purposes, there are synergies to exploit.** A coherent approach between both functions, in terms of definitions and classifications, can help produce more coherent data on climate and environmentally related public finance indicators. National climate and environmental related accounting, classification and reporting methodologies should be suited to national needs and accounting frameworks and ideally facilitate international comparability. By using consistent, coherent and high-quality statistical data, governments can strengthen their impact assessment and evaluation processes as well as peer-review their performance, all contributing to the ultimate goal of green budgeting and achieving climate objectives.

**The green budgeting frameworks developed at a national level can reinforce national financial management and accounting systems.** Well-designed national green budgeting frameworks could also help secure data essential to produce comprehensive statistics on environmental revenue, expenditure and government green investments. Green budgeting could also be implemented alongside planned public sector accounting reforms, particularly those aiming to introduce more comprehensive charts of accounts and a greater degree of digitalisation of budgetary processes.

A specific green budget publication can provide a clear, transparent and comprehensive representation of the alignment of the budget with countries' green objectives. The document can contain several types of budget and performance information (Box 15). Based on this information, the document can demonstrate monitoring and impacts. These documents are usually published as an annex to standard budget documents (OECD, 2020c):

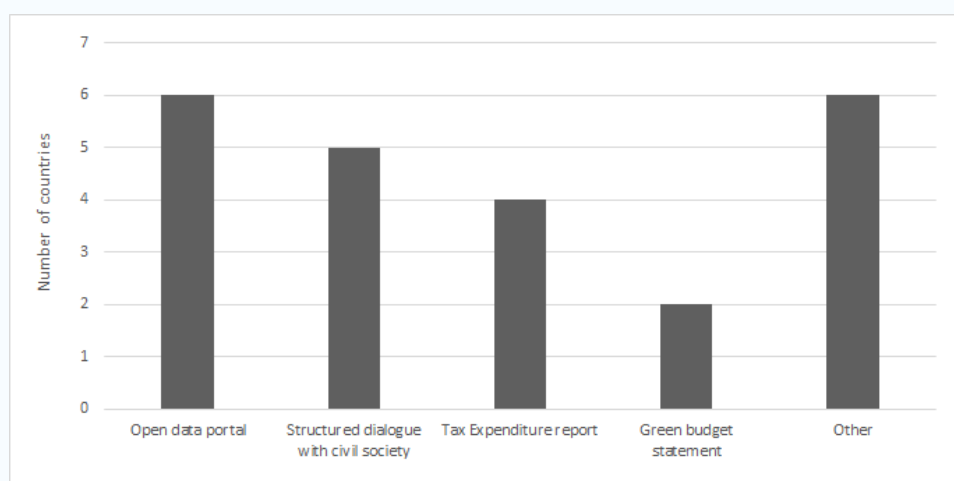
- A general green budgeting statement shows in a public and transparent way, how budget measures correspond to the country's environmental and climate objectives.

- A green progress statement allows for more analytical and detailed development and synthesis of the different budget and fiscal measures that have been adopted during the budget cycle. It provides a status of the government's objectives referring to the different targets and indicators that have been selected by countries. For example, the OECD proposes key indicators to accompany the achievement of stimulus measures in addition to economic, employment and other social indicators.
- A distributional impact analysis reflects the social and economic influence of green budget and fiscal measures. It puts a monetary value on the impact to measure the return on investment for a value paid out, especially in terms of avoided costs. To estimate this value, the country can measure the value of what has changed for people, comparing it with the value of a comparable item in the market.

#### BOX 15. REPORTING ON GREEN BUDGETING

Reporting methods on green budgeting vary across countries, from tables in budget plans to comprehensive reports. Across the countries reviewed in the joint European Commission and OECD survey, green budgeting information is reported through an open data portal, or in dialogue with civil society, and at times in tax expenditure reports or green budget statements. In Ireland, the budget contains tables or boxes on green aspects, in Finland, the budget includes a dedicated chapter. In Denmark, a separate report is published highlighting the estimated effects on carbon emissions. In the Netherlands and Sweden, the information is presented as part of the information on environmental quality or sustainable development. France and Italy publish separate green budget statements.

#### Reporting methods on green budgeting in OECD and European countries in 2020



\**Other*: Reporting tools not included in the previous categories such as climate reports, performance reports, activity reports, climate and energy outlook, statistics.

Source: OECD, 2021b.

#### 4.6. INSTITUTIONAL DESIGN

**A framework on green budgeting that has been passed into legislation can provide a strong anchor for the implementation of roles, responsibilities and requirements across government.** Legislation supports capacity development and provides a bridge between strategic planning and budgeting. In 2021, eight OECD countries have updated their national budget laws to embed green budgeting requirements, specifically Austria, Colombia, France, Italy, Luxembourg, Mexico, the

Netherlands and Portugal. Six countries have passed separate legislation, such as in Norway and Sweden, and eleven countries have adopted green budgeting through administrative practices. As of 2021, no country has passed a constitutional amendment on green budgeting obligations (OECD 2021b) and (OECD Forthcoming\_b).

**A well-defined institutional design provides an enabling environment for green budgeting practices.** This is particularly important as green budgeting requires a whole-of-government approach. It is important that governments define relationships between strategic planning and budgeting, evidence-based processes, and engagement with parliaments and civil society (OECD, 2020a). This comprises an inclusive approach to laying out the roles and responsibilities of all relevant parties, for example, finance ministries, line ministries, national statistical offices, and independent expert agencies. Audit institutions and the parliament can strengthen the framework for green budgeting by holding governments to account for green policies and actions. At present, various governance approaches have been adopted by those countries practicing green budgeting (Box 16).

#### BOX 16. GOVERNANCE PRACTICES IN THE EU

The existing governance arrangements for green budgeting in the EU operate on both centralised and decentralised bases, supported by a range of instruments.

For example, in France, the governance of green budgeting is centralised with the General Inspectorate of Finances preparing the green budgeting report, based on an inter-ministerial discussion with line ministries and agencies. A similar approach can be seen in Sweden. In Ireland, the Department of Public Expenditure and Reform performs a central role, but it coordinates with line ministries throughout the process.

In Italy, a decentralised approach to governance exists, where line ministries apply green budgeting tools and methods based on guidance prepared by the Ministry of Economy and Finance. A similar approach exists in Finland. For the European Union budget, the Climate and Budget Directorate Generals lead on methodology and reporting, with inputs from other Directorate Generals.

Green budgeting exists through a range of legislative and executive instruments, for example budget laws in France, climate laws in the Netherlands and Sweden, general legislation in Italy, government decrees in Finland, and high-level political commitments in Ireland.

#### 4.6.1. Central government

**Green budgeting is most often rooted in high-level political commitment, with a key role for finance ministries and ministries of environment/climate at the forefront.** In most OECD and EU countries where green budgeting is practised, its introduction has been driven and underpinned by high-level political commitment to pursue national and international goals. In most of these countries, finance ministries, and more specifically, central budget authorities play a leading role alongside the Ministry of Environment and line ministries as responsible authorities for green budgeting, suggesting a co-ordinated approach across government stakeholders. For example, in **Italy**, the Ministry of Environment, Land and Sea developed a catalogue of harmful subsidies in response to a request from the parliament to support oversight of proposed government subsidies from a green perspective.

**Finance ministries can accelerate green action and be the primary drivers behind green accounting, classification, and reporting standards.** The multiple stakeholders involved in developing standards include government agencies, expert bodies, statistical offices, and audit

institutions. However, the standards are usually coordinated, developed and implemented by finance ministries, who tend to have the necessary knowledge, skills and institutional leverage (Box 17).

#### BOX 17. COALITION OF THE FINANCE MINISTERS FOR CLIMATE ACTION

The members of the Coalition of Finance Ministers for Climate Action are engaged in many areas related to climate change policy, but few of these members have a climate plan or strategy in place. Enhanced efforts on climate change will require ministries to leverage expertise and build capacities.

Under Helsinki Principle 2, Members have committed themselves to prepare reviews about the design, organisation, and exercise of climate policy (mitigation and adaptation/resilience), and the role of the Ministry of Finance in these arrangements. More specially, the principle 2 includes commitments for:

- Sharing national approaches and good practices to help Members develop their capacities and roles in policy-making, including in the Nationally Determined Contributions processes.
- Reviewing practices, resources, and competencies representing different governance and organisational models.
- Working in collaboration with partners to leverage expertise and bridge the gap between finance ministries and those leading on climate action.

#### 4.6.2. Subnational governments and State-Owned Enterprises

**Subnational governments (SNGs) and state-owned enterprises (SOEs) are often responsible for substantial GHG emissions and environmental impact and should be included in green budgeting frameworks.** These entities should be associated to the preparation of climate change strategies to ensure a common understanding on their role in implementing them, report regularly on their performance against green objectives, and be subject to green budgeting approaches such as incorporating GHG emission and environmental impact assessment in project appraisal and selection processes. A critical hurdle for many countries is the sometimes weaker PFM capacity at the subnational level. Central governments have a responsibility in enabling PFM reforms to trickle down to local levels through a capacity development strategy.

**Some subnational governments have already started to integrate green budgeting, for example, in Sardinia (Italy), Oslo (Norway), and Andalusia (Spain).** In France, seven cities, metropolises and regions contributed to green budgeting initiatives. The cities of Paris and Lille, the regions of Brittany and Occitany and the metropolises of Lille, Lyon and Strasbourg took part in this new exercise, providing valuable feedback. The metropolis of Lille, for example, has been working on this project since 2018. In 2019, it completed the classification of budget lines according to favourable, unfavourable or neutral criteria'. The city of Lille also applied the method on 65% of its investment and operating expenditure. Although there is room for improvement, green budgeting should be seen as a first step in the construction of new procedures and tools to manage the ecological transition within subnational entities (OECD, 2019c and OECD, Forthcoming\_c).

**The commitments made by state-owned enterprises are being developed, with green budgeting being an evolving practice.** Many countries surveyed by the OECD are progressively integrating sustainability-related values into government SOE ownership policies. For example, SOE ownership policies in France and Norway require SOEs to reduce their GHG-emission footprints and report their progress in their annual reports. (OECD, 2020d).

### 4.6.3. Independent oversight

**There is a trend in many countries to set up new, or enable existing, independent, non-partisan institutions to provide oversight and analysis and inform public decision-making.** The underlying motivation is that in areas of high policy complexity, such as fiscal or regulatory policy, an independent oversight may strengthen governmental commitments or enhance the credibility of government policies. Moreover, such institutions can help address the political economy difficulties of grappling with long-term challenges, often beyond the horizon of many elected policy-makers.

**National independent environmental and climate councils can help strengthen the accountability and transparency of the green budgeting process.** As part of their climate frameworks, some Member States have established independent bodies in charge of issuing advice to governments, monitoring their climate policies and assessing the coherence of these policies with the governments' overall environmental strategy (Box 18). Within a national green budgeting framework, the climate councils could provide an evaluation of the tools and methods used, evaluate the reports to check whether the methods have been correctly applied, and conduct ex-post reviews. Not least, such independent bodies could conduct overall assessments of the extent to which the climate and environmental objectives are effectively promoted by the proposed policies set out in the annual budget and/or multiannual documents.

## BOX 18. INDEPENDENT OVERSIGHT AND CLIMATE COUNCILS

In **Austria**, the Parliamentary Budget Office publishes a green budgeting ‘landscape’ to support budget scrutiny in the parliament. This presents a summary of green goals, activities and targets.

In **Denmark**, the Council on Climate Change, an independent body of experts, provides advice on cost-effective climate policies for the transition to a low-carbon economy, based on analysis with a short-, medium- and long term strategy horizon. It also evaluates implementation of national and international climate goals and contributes to the public debate.

The Climate Change Panel in **Finland**, an independent and interdisciplinary think-tank, is assessing the coherence of climate policy and the adequacy of the implemented measures to answer the challenges of climate change. It provides its opinion on climate policy plans and serves as an advisor to the Finnish ministerial working group on energy and climate policy.

In **France**, the High Council for Climate is an independent body attached to the office of the prime minister. It provides advice on climate, especially on coherence of different public policies with respect to the Paris Agreement. It publishes annual reports on greenhouse gas emissions and on compliance with the reduction targets, including recommendations. Every five years, it publishes a report on the national carbon strategy.

The Climate Action Delivery Board in **Ireland** is a climate watchdog in charge of scrutinising the implementation of the actions set out in the Climate Action Plan. It presents a delivery report to the cabinet on a quarterly basis, and discusses and publishes a progress report for cabinet each year.

In **Netherlands**, the Dutch Environmental Assessment Agency (PBL) evaluates government policies and produces climate estimates used by the Advisory Division of the Council of State which is tasked to assess whether the government remains on track to reach its reduction targets. The CPB Netherlands Bureau for Economic Policy Analysis (CPB) assesses the fiscal and macroeconomic and distributional impacts of climate policy measures.

The Climate Policy Council in **Sweden**, an independent scientific council, is tasked with providing an assessment of how the national climate policy is compatible with the climate goals set in the Climate Act. It is also responsible for reviewing the effects of both existing and planned policies from a broad societal perspective, and identifies areas where additional measures need to be taken.

In the **United Kingdom**, the Climate Change Act (2008) established the publicly funded Climate Change Commission (CCC), which advises the UK government and devolved administrations on how to reduce GHG emissions and prepare for and address the impacts of climate change today and in the future. Its mandate states that the primary duties of the CCC are to: perform independent analysis, engage with stakeholders and the public to promote informed discussions on climate change, provide independent advice on setting and meeting carbon budgets and pre-paring for climate change; and monitor progress.

Source: Bova, 2021; OECD, 2020b, UK government <https://www.theccc.org.uk>.

## 5. CONCLUSIONS

**Green budgeting can be a powerful mechanism to achieve increasingly critical climate and environmental commitments at national and global levels.** The COVID-19 pandemic and the upcoming recovery period may represent a critical turning point in the global response to climate change. The early adoption of green budgeting principles in the recovery would be a highly effective tool for orienting government policies, public investment, consumption and taxation towards green objectives. Nevertheless, a whole-of-government approach, including legal, regulatory and other procedures not underpinned by budgetary allocation, is crucial in reaching the green goals.

**While green budgeting practices are often evolving, country-specific and fit within the existing national fiscal frameworks, this paper defines common core elements that underpin an effective approach.** National green budgeting practices can be developed in line with a country's priorities and adapted to the national governance framework and surrounding environment. Nevertheless, some key building blocks help ensure approaches are linked to the budget process such that efforts are sustained and remain effective over the longer term. They refer to:

- i. *Strategic framework:* clearly defining the national strategic priorities and plans related to climate and environment can help orient fiscal planning, guide public policy, investment and other decisions on revenue and expenditure to support the green priorities.
- ii. *Tools and methods:* several tools can bring climate and environmental considerations into budgeting and fiscal policies, such as macroeconomic green budget tagging, modelling and forecasting, environmental impact assessments and evaluation, green spending reviews, fiscal risk management, incorporating green targets in the medium-term fiscal frameworks and performance frameworks.
- iii. *Institutional design:* strong leadership and clearly defining the roles and responsibilities of the relevant parties involved is key, along with the timeline for actions and required deliverables. While the finance ministries can take the lead in implementing the process, close collaboration and coordination with line ministries is strongly encouraged.
- iv. *Reporting, transparency and accountability:* communicating the progress of green reforms is essential as it informs stakeholders about the government's actions. Involving independent environmental experts in the process can further strengthen its accountability

**Countries may face several challenges when implementing green budgeting, but exchanging best practices and technical support from international organisations can help overcome such barriers.** Common impediments to the introduction of green budgeting practices refer to the lack of an existing methodology to assess environmental effects, weak multiannual budgetary frameworks, lack of political will, and lack of resources, relevant knowledge and technical expertise. International and supranational organisations support their membership in developing green budgeting practices by offering tailored technical support for capacity building and maintaining information repositories on best practices.

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# ANNEX I: GREEN BUDGETING FRAMEWORKS

## European Union Green Budgeting Reference Framework

The European Commission developed a Green Budgeting Reference Framework as a guidance tool for green budgeting practices (European Commission, 2021b). The Framework has five key elements which could be adopted in a three-stage implementation approach (*essential, developed, advanced*):

- **Coverage:** a comprehensive framework should encompass all environmental objectives and the entirety of budgetary elements and public sector entities.
- **Methodology:** initially, the methodology could imply identifying those budgetary items whose net impacts are broadly favourable or unfavourable to the environment, followed by a more comprehensive approach that identifies the green and brown content of the budget as a whole, eventually complemented by impact assessments.
- **Deliverables:** a national legal provision or administrative document on green budgeting should detail the content and calendar for green budgeting deliverables; these should be part of annual and multiannual budgetary plans and execution reports.
- **Governance:** the roles and responsibilities of the different stakeholders should be clearly defined, together with the timeline for action and deliverables. Initially, a temporary dedicated task-force could be put in place until a permanent structure is established with close involvement of line ministries.
- **Transparency and accountability:** all deliverables should be public and the methodology should be subject to an independent expert assessment. At a later stage, practices should include independent evaluations of the reports, parliamentary scrutiny and regular ex-post reviews of the methodology used.

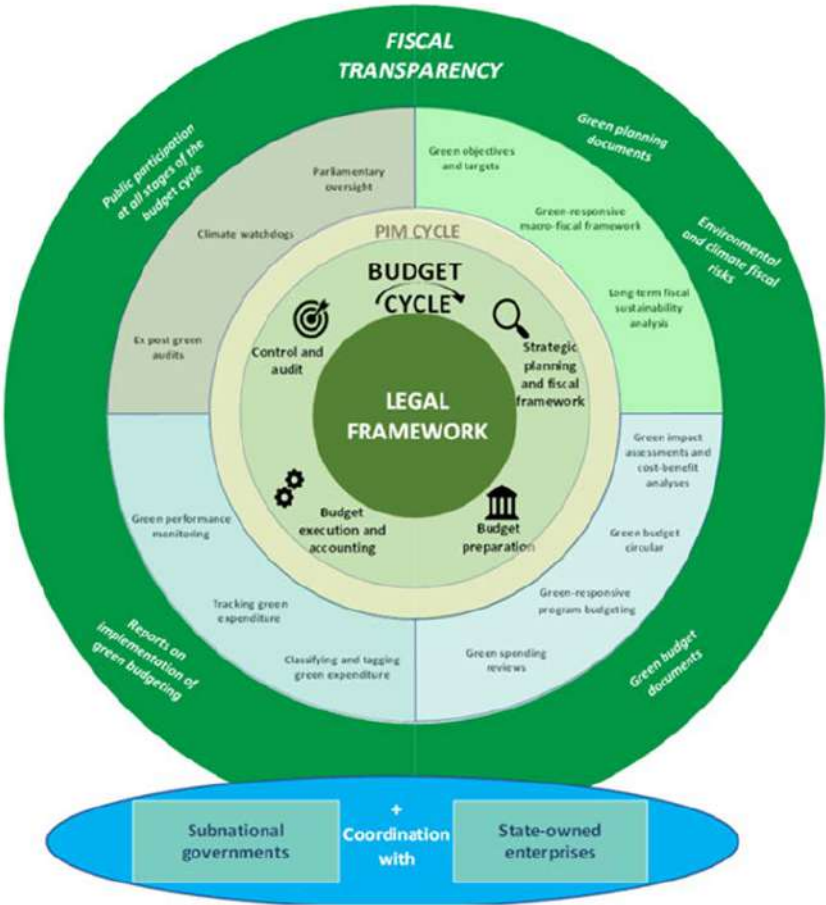
European Union Green Budgeting Reference Framework

<b>ELEMENTS</b>	<b>LEVEL 1- Essential</b>	<b>LEVEL 2 - Developed</b>	<b>LEVEL 3 - Advanced</b>
<b>Coverage</b> <i>Environmental objectives</i>	Climate-related	Climate-related Some other objectives	All objectives
<i>Budgetary items</i>	Favourable expenditure Favourable revenue	Favourable items Unfavourable items	Favourable items Unfavourable items Tax expenditure
<i>General government</i>	State (incl. social security)	State (incl. social security) Subnational governments	State (incl. social security) Subnational governments Other extra-budgetary items (e.g. SOEs)
<b>Methodology</b>	Partial tagging methodology	Tagging methodology	Tagging methodology Impact assessment of policies methodology
<b>Deliverables</b>	Identification in annual budget Reporting on budget execution	Identification in annual budget Reporting on budget execution Estimates in multi-annual plans	Identification in annual budget Reporting on budget execution Estimates in multi-annual plans Extra-budgetary spending reports
<b>Governance</b>	Ad-hoc central task force	Permanent central structure (not necessarily separated)	Permanent central structure (not necessarily separated) Green budgeting correspondents in various ministries/agencies
<b>Transparency &amp; Accountability</b>	All deliverables public Independent expert assessment of methodology	All deliverables public Independent expert assessment of methodology Independent assessment of deliverables Parliamentary discussion	All deliverables public Independent expert assessment of methodology Independent assessment of deliverables Parliamentary discussion Ex-post review

IMF Green PFM, Climate-Sensitive Management of Public Finances

The “Green PFM” framework developed by IMF staff aims at adapting existing PFM practices in countries of all income groups and capacity levels to support climate-sensitive or more broadly based environmental-friendly policies. With the cross-cutting nature of climate change and wider environmental concerns, green PFM can be a key enabler of an integrated government strategy to combat climate change.

Through the green PFM framework, the IMF emphasises the need for an approach combining various entry points within, across, and beyond the budget cycle. This includes components such as fiscal transparency and external oversight, and coordination with state-owned enterprises and subnational governments. This is set out in Figure 1 below, which outlines the main PFM areas where green concerns should be “mainstreamed”.



The IMF staff’s “Green PFM” framework also spells out five key principles to ensure a successful implementation of green PFM reforms.

- First, some prerequisites are necessary for successful green PFM reforms, including having the basic elements of a functional PFM system already in place, building on significant political ownership, and developing “green” expertise for key actors in the PFM processes.
- Second, while green PFM reforms constitute a whole-of-government undertaking, the Ministry of Finance as the custodian of public resources should be in the driver’s seat. Line ministries – with the Ministry of Environment at the forefront – and other actors have an important technical role to play, but the Ministry of Finance will have the required mastery of PFM processes to assess how green elements can be instilled into these processes.

- Third, green PFM reforms should be integrated with the existing PFM reform agenda. For example, the shift to program budgeting, an important PFM reform in many countries, can provide an opportunity to enhance monitoring of environmental outputs and outcomes.
- Fourth, countries should look for a smart sequencing of green PFM reforms. Most of the time, this means starting with green PFM reforms touching upon the budget formulation process, for example developing the capacity to assess ex ante green impacts of fiscal policies, before moving downstream, for example measuring actual results and impacts and comparing them to ex ante objectives. Gradually rolling out reforms, notably through the use of pilots, can also be helpful.
- The fifth principle relates to the importance of adequately communicating on green PFM reforms to ensure buy-in from all stakeholders and to manage expectations.

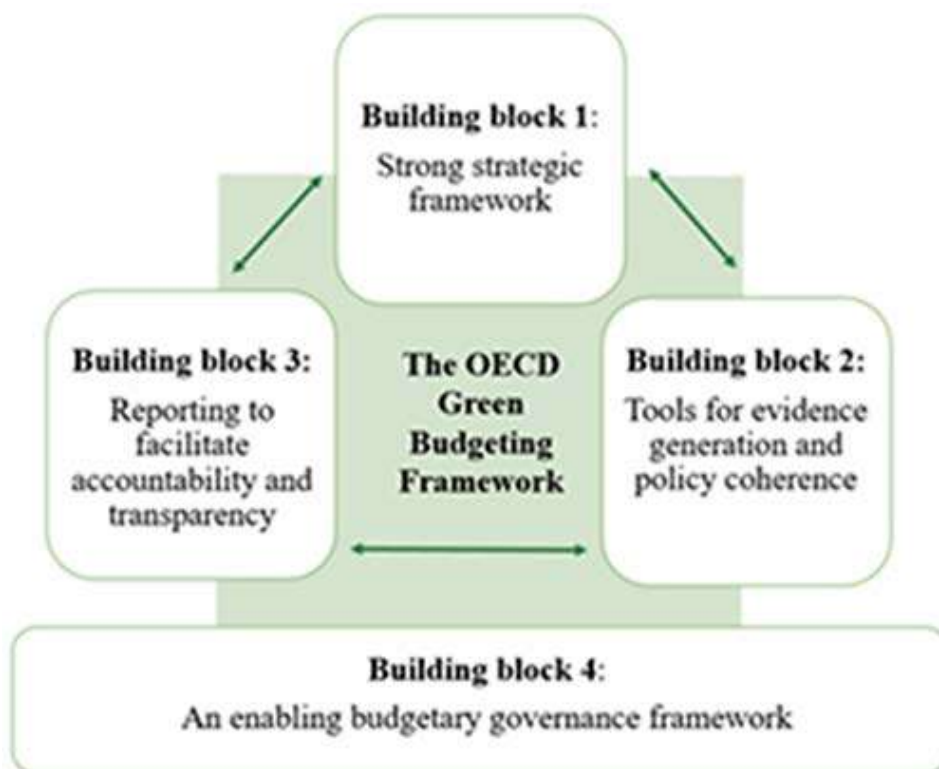
Source: Gouguet et al., 2021.

## OECD Green budgeting framework

The OECD green budgeting framework comprises four building blocks. Each building block helps ensure green budgeting is integrated into a government's budget process.

- A strong strategic framework to provide information on national climate and environmental objectives. The use of green budgeting to help meet these objectives is bolstered when it is underpinned by high-level political commitment and through budget laws that require green considerations in the budgetary process.
- The tools and methods implemented by each country help to gather evidence on the alignment of budgetary policies with the climate and environmental objectives in the strategic framework.
- Accountability and transparency help to embed green budgeting and assure its credibility. This can be achieved through reporting information to facilitate impartial scrutiny of the information by parliament and other oversight bodies such as independent fiscal institutions.
- The enabling environment may include a modern budgetary framework and capacity development within government ministries both of which help ensure efforts to implement green budgeting can deliver results.

### OECD Framework on Green Budgeting



Source: OECD, 2020a.





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