

A row of blue bicycles parked on a cobblestone street. The bicycles are arranged in a neat line, receding into the distance. The background shows a brick building and some greenery.

ACCA Think Ahead

**GREEN BUDGETING:
A TOOLKIT FOR PUBLIC
SECTOR FINANCE
PROFESSIONALS**

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Foreword



John Lelliott OBE FCCA,
Non-Executive Director
of the Environment Agency

Climate change is the defining challenge of our age. The public sector has a critical dual role in responding to this challenge: in its policy making and regulatory function, setting the agenda for wider society, and ensuring that its own organisational practices minimise the impact on the climate and the environment.

Action to address the climate crisis requires change across the entire public sector. Climate considerations must be central to every public sector organisation's decision-making processes. The commitments governments have made to reducing greenhouse gas (GHG) emissions now need to be translated into funded and measurable actions. Accountancy and finance professionals in the public sector will be essential to this task; they can provide leadership and expertise to mainstream climate action in every public sector organisation.

The budget cycle is at the heart of how every organisation implements its objectives and finance professionals are integral to every aspect of this process in the public sector. Green budgeting provides a framework for public sector organisations to use the tools of the budget process to work towards implementing climate commitments and achieving their environmental goals.

Green budgeting is a wide-ranging concept and can involve various different approaches. This toolkit outlines the basics of green budgeting, focusing on the role of finance professionals. It highlights examples of green budgeting methods and sets out the steps for making green budgeting a success, emphasising the importance of ownership by the finance function to make climate action a priority. The toolkit also includes case studies from public sector organisations across the world which are implementing green budgeting approaches.

Climate change is a global challenge and ACCA, as the leading global accountancy body, is committed to supporting the public sector to confront this challenge across the different regions in which we operate. Alongside this toolkit, we are also supporting the work of the International Public Sector Accounting Standards Board on sustainability reporting for the public sector. We will continue to highlight the important role of finance professionals in the public sector in driving change and helping to build a better world.



Introduction

Climate change is already having a profound impact on our planet, society and global economy. Governments are at the forefront of the response to climate change; countries have set national goals and made global commitments to protect the environment and mitigate climate change.

For countries to achieve these targets, sustained effort will be required across the public and private sectors. The impact of every organisation's activities on climate change, biodiversity loss and environmental degradation needs to be understood and then mitigated.

ACCA has highlighted the critical role of professional accountants in the drive to decarbonise and put sustainability at the heart of decision-making (ACCA, 2021a). Finance professionals can provide leadership and expertise as organisations implement plans for climate action.

All public sector organisations, whether large or small, produce a budget, usually annually. Budgets matter. They demonstrate the priorities of public sector organisations. As the US President, Joe Biden, has said:

'DON'T TELL ME WHAT YOU VALUE. SHOW ME YOUR BUDGET – AND I'LL TELL YOU WHAT YOU VALUE.'

Joe Biden, US President

An organisation's budget is a statement of intent and therefore a powerful tool for both raising awareness of an organisation's environmental objectives and operationalising them. Green budgeting enables organisations to use their existing budget process to consider the impact the organisation's activities have on its environmental objectives.

From this starting point, green budgeting can be used to align budgets more closely with climate change and sustainability goals, as part of an integrated approach.

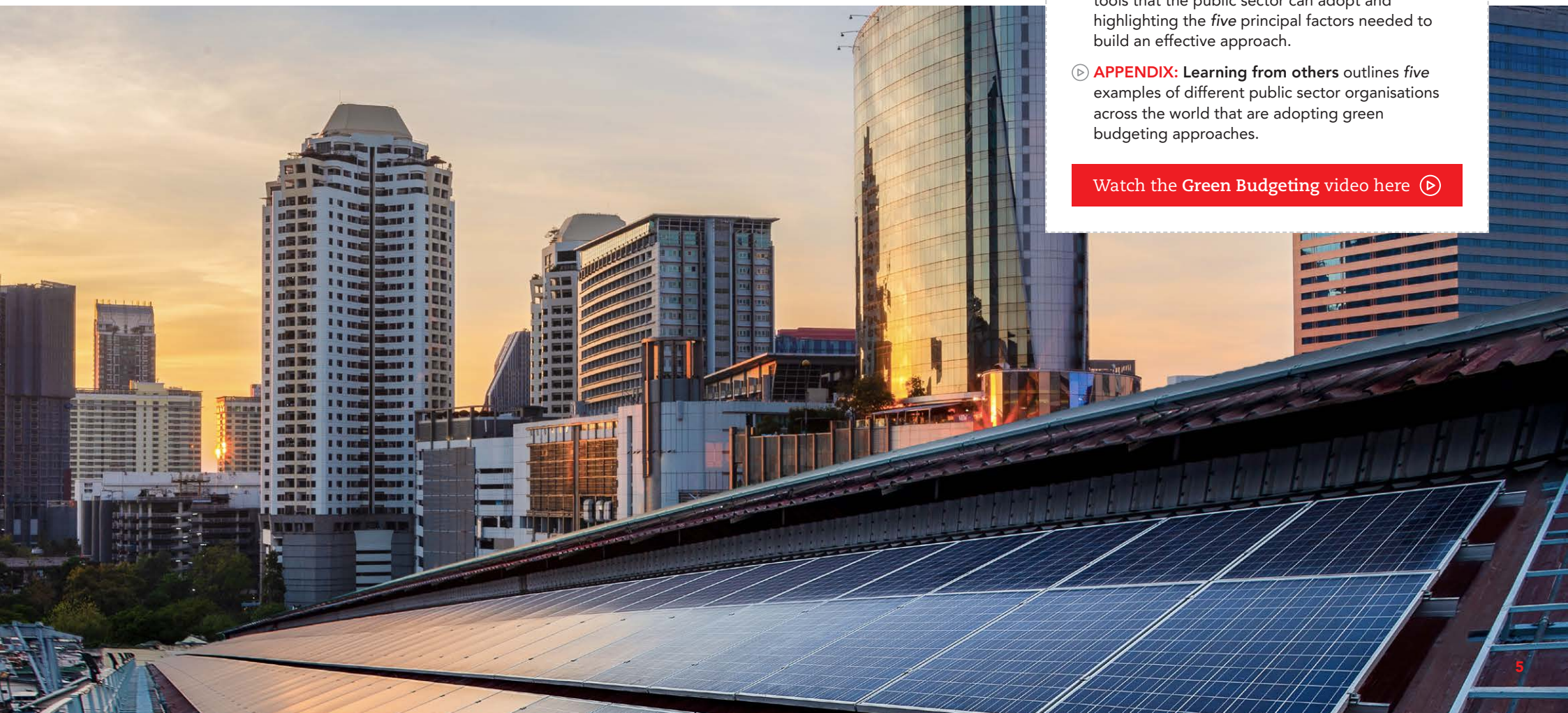
Over time, it should enable organisations to move from activities and investments with damaging impacts on the environment, towards more sustainable and even 'climate positive' actions.

There is a critical role for professional accountants and the finance function in green budgeting. Finance professionals are central to the budget process in public sector organisations; by taking the lead in developing and implementing green budgeting approaches they can make it a priority in their organisation.

Toolkit outline

- ▶ **SECTION 1: Understanding green budgeting** outlines the definition of green budgeting and identifies *four* key motivations for public sector organisations adopting these practices.
- ▶ **SECTION 2: Getting started** highlights *three* overarching principles to consider at the outset for organisations implementing green budgeting.
- ▶ **SECTION 3: Making green budgeting a success** focuses on the implementation process, summarising *two* of the main green budgeting tools that the public sector can adopt and highlighting the *five* principal factors needed to build an effective approach.
- ▶ **APPENDIX: Learning from others** outlines *five* examples of different public sector organisations across the world that are adopting green budgeting approaches.

Watch the Green Budgeting video here ▶



1. Understanding green budgeting

What is green budgeting?

Green budgeting has been described by the OECD as ‘a compass for achieving our environmental objectives’ (OECD, 2020). At its simplest, it is an approach which identifies and assesses the climate and sustainability impacts of budget items. Building on this information, organisations can align their budgets more closely with climate and sustainability objectives.

Green budgeting practices are still developing and the concept is sometimes defined fairly widely. Our focus in this toolkit is on those approaches that are most closely associated with the budget process itself and with an organisation’s budget cycle. Focusing primarily on the budget process enables all public sector organisations to consider how they can adopt green budgeting as an approach.

Green budgeting enables organisations to use the tools of budgetary policy making to support the achievement of environmental goals. It is crucial therefore that the green budgeting practices chosen by an organisation build on the existing budget process. This is an important strength of green budgeting; it complements current arrangements and can be developed over time. It does not require new or alternative budget management systems.

Green budgeting can be seen as part of a wider green public financial management (PFM) approach, encompassing all the arrangements governments put in place to manage public spending, including fiscal policy (Gonguet et al, 2021). For example, the World Bank’s Public Expenditure and Financial Accountability (PEFA) programme has developed a framework which assesses the extent to which PFM systems, processes and institutions are climate responsive (PEFA, 2020).

Priority and Outcome-Based Budgeting

Green budgeting is a type of outcome-based or priority-based budgeting. It has similarities with other approaches, like gender budgeting (ACCA, 2021b), well-being budgeting and Sustainable Development Goals (SDG) budgeting. At the heart of this approach is an emphasis on developing systematic links between budget decision making and specific outcomes. When these outcomes are strategic priorities, this approach to budgeting helps to focus action across an organisation on these goals.

Why green budgeting?

Each organisation will have its own motivation for adopting green budgeting. Indeed, in many cases it is likely to involve a combination of factors. From the findings of an OECD survey of 35 countries (OECD, 2021), we identify four key factors:

- supporting the achievement of international and national commitments and goals
- promoting environmentally responsive policy making
- fostering budget transparency
- facilitating planning and reporting for green bonds.

Supporting the achievement of international and national commitments and goals

Almost all countries have signed up to the United Nations' Paris Agreement, committing to substantially reduce global greenhouse gas (GHG) emissions to limit global temperature rises to 2 degrees Celsius. The net zero targets set by over 70 countries together cover about **76% of global emissions**. These countries include the largest GHG emitters: China, the US and the European Union (UN, 2022).

These commitments must be put into action. Green budgeting enables them to be translated into clear, measurable and funded actions across organisations. By linking emissions-reduction targets and caps on emissions to specific budgetary items, public sector organisations can start to translate high-level goals into action through their day-to-day activities.

Promoting environmentally responsive policy making

Green budgeting embeds an approach which integrates climate change and environmental considerations into decision-making across an organisation. The budget process can be used to evaluate priorities, taking into account climate and sustainability considerations. Throughout the budget cycle, in budgetary discussions, decision making and monitoring, this process enables all parts of an organisation to be held accountable for the impact of their activities and policies.

Tackling climate change needs a whole-of-government approach. Specific policy measures to address climate change will be vital, but every single policy needs to be evaluated for its impact on climate change and the environment. Green budgeting approaches can evaluate the impact of budget measures through cost-benefit analysis techniques or environmental impact assessments of spending plans.

Fostering budget transparency

Transparency in, and accountability for, public spending is increasingly a priority for both citizens and the public sector itself. Green budgeting enables identification of the specific elements of an organisation's budget directed to combating climate change and achieving sustainability goals. This can help to demonstrate an organisation's commitment to these objectives and highlight activity across the whole organisation.

Green budget 'tagging' can identify those budget items that make a positive contribution to achieving broad environmental objectives. For example, budget items with an explicit green objective can be tagged; similarly, those with negative impacts on these objectives can also be highlighted. This assessment is often the first step in green budgeting and over time its scope can be broadened, as organisational capacity develops.

Facilitating planning and reporting for green bonds

Increasingly investors are favouring investments in sustainable activities, as part of their environmental, social and governance (ESG) priorities. The market for sustainable bonds, sometimes known as green, social and sustainability (GSS) bonds, was estimated at US\$2.9 trillion in 2022 (BIS, 2022). Local government and state-owned enterprises were the first parts of the public sector to offer GSS bonds, and, since 2017, national governments have also issued sustainability-linked bonds.

Green budgeting can support the issuing of bonds by signalling public sector organisations' commitment to climate change and sustainability issues. More specifically, it can facilitate budgeting and reporting to bond investors, to show how funding is being applied to climate-related expenditure.



2. Getting started

Creating the right conditions

Once a public sector organisation has decided it wants to adopt green budgeting, ensuring the right environment for implementation is critical for its effectiveness. Each public sector organisation's context is unique and is shaped by political, historical and legal factors. For the best chance of making green budgeting a success, we have identified three key principles which will support its integration:

- political will
- building on existing processes
- a whole public sector approach.

Political will

For green budgeting to succeed, political will, especially at the outset, is a crucial enabling factor. While the process is often initiated by officials, securing support from the political leadership of an organisation or government will ensure this approach is more likely to take root.

To obtain political support, organisations need to be clear about their motivations for introducing green budgeting. The main drivers for the approach must be identified early on. This will allow the selection of appropriate practices and enable political leadership to endorse and drive the green budgeting agenda.

Building on existing processes

Public sector organisations face resource constraints, which have only increased since the pandemic. Green budgeting does not require costly new systems or extensive external support. Most green budgeting practices can build on the arrangements organisations already have in place.

Given the importance of the climate change agenda, progress with green budgeting reforms is urgently needed. Integrating practices into existing budget processes and systems will speed up the introduction of reforms and will minimise cost and disruption. As organisations' approaches develop and evolve, techniques and systems can be adapted through an iterative process.

Green budgeting and UN SDGs

A potential driver for public sector organisations considering green budgeting is to support progress towards the UN's Sustainable Development Goals (SDGs). There are 17 goals, agreed by 193 UN member states, which set out a shared vision to end poverty, fight inequality and injustice, and tackle climate change by 2030. Many of the SDGs directly relate to climate and environmental objectives, including SDG 7 (Affordable and Clean Energy), SDG 13 (Climate Action) and SDG 15 (Life on Land).

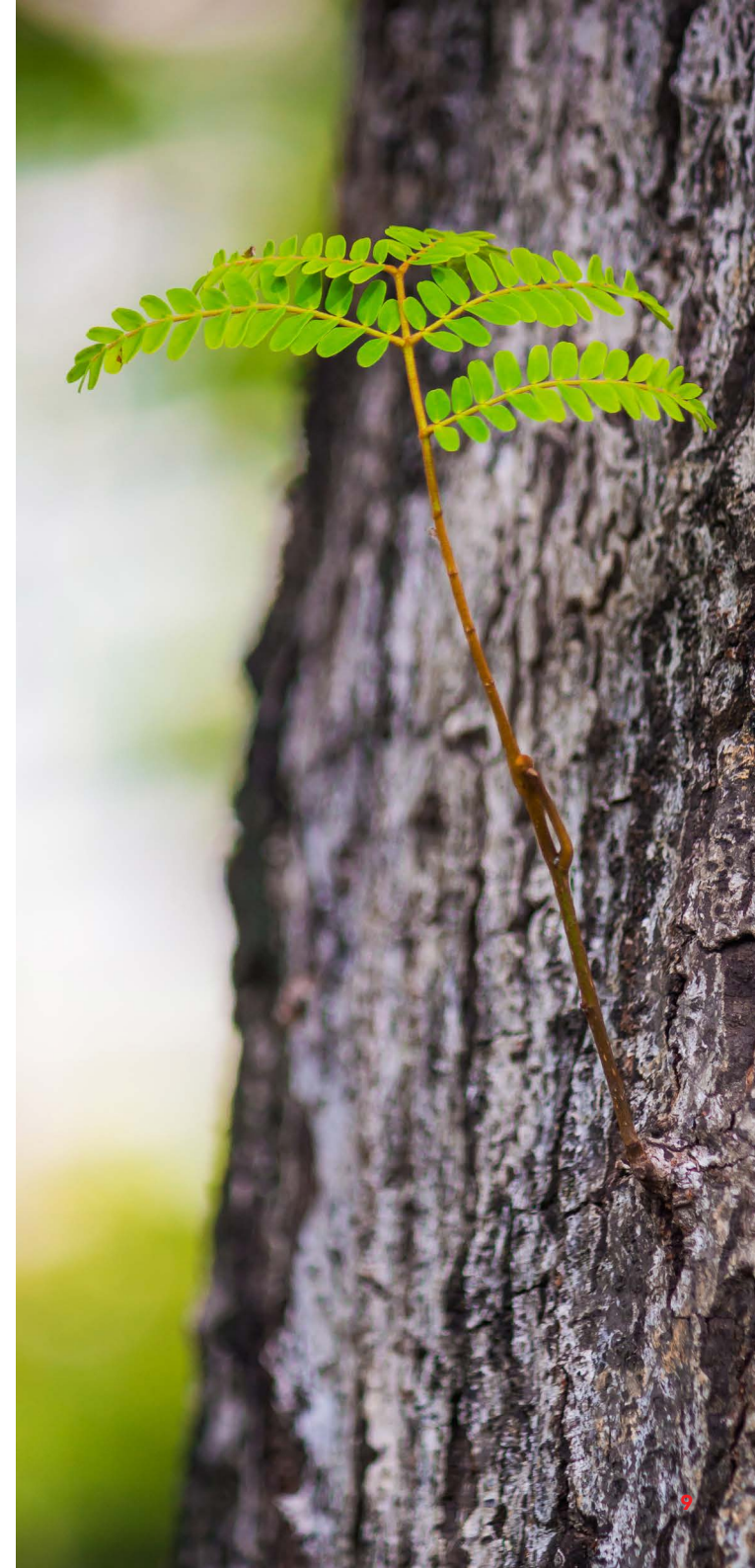
Green budgeting can support the achievement of SDGs by evaluating the environmental impact of budget proposals, as well as monitoring and tracking expenditure on activities connected to the environmental goals. Many of the SDGs relate to cross-cutting issues and green budgeting facilitates a coordinated approach to making progress on achieving these goals.

A whole public sector approach

For green budgeting to be effective, it must be adopted at different levels of government. More than half of public spending on climate and the environment is at a sub-national level (OECD, 2021) and local governments pioneered the issue of green bonds.

All public sector organisations need to consider how they can adopt green budgeting to meet their own climate change and sustainability objectives. Implementing green budgeting at every level of government will help to develop a coordinated approach, enabling organisations to share good practice and provide opportunities to innovate. As the public sector sustainability reporting agenda develops, organisations with green budgeting approaches will be in a good position to respond to new reporting requirements.

IMPLEMENTING GREEN BUDGETING AT EVERY LEVEL OF GOVERNMENT WILL HELP TO DEVELOP A COORDINATED APPROACH, ENABLING ORGANISATIONS TO SHARE GOOD PRACTICE AND PROVIDE OPPORTUNITIES TO INNOVATE.

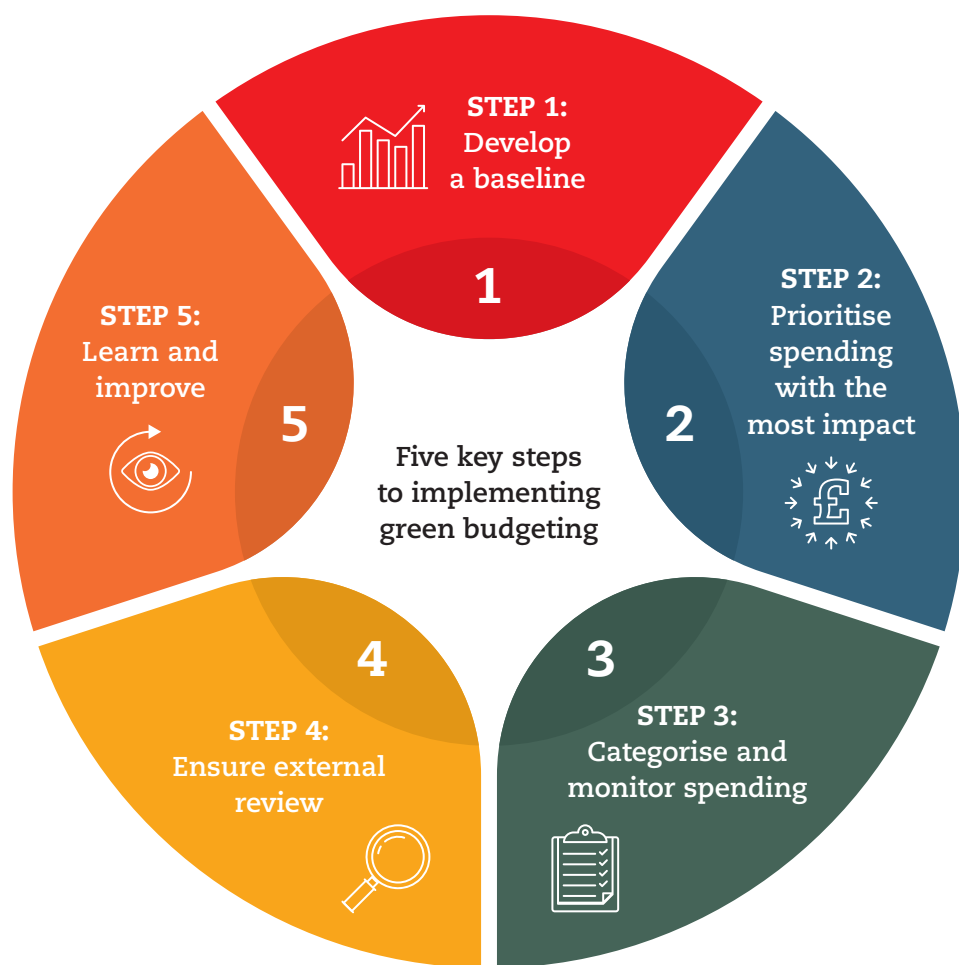


3. Making **green** **budgeting** a success



Finance professionals must be at the centre of green budgeting approaches in public sector organisations. Professional accountants' skills and the roles they undertake in the public sector equip them to support their organisations in each of the five key steps to implementing green budgeting. These steps also highlight two of the most widely used practices, firstly, **green budget tagging** and, secondly evaluation approaches, such as **environmental impact assessments** and **environmental cost-benefit analysis**.

FIGURE 1: Five key steps



STEP 1: Develop a baseline

As a first step in green budgeting, public sector organisations need to develop a clear understanding of the impact of their existing spending on the environment and climate change. Identifying the extent to which expenditure aligns with the current government's policies and priorities for this agenda provides an evidence base and expenditure baseline to inform future spending decisions.

FINANCE PROFESSIONALS CAN SUPPORT THIS PROCESS, USING THEIR EXPERTISE IN BUDGETING OR COSTING.

Finance professionals can support this process, using their expertise in budgeting or costing, for example, through a comprehensive climate tagging exercise or environmental impact assessments of existing major expenditure items. The method chosen must be achievable within reasonable time and costs. Crucially, it should not be an academic exercise, its findings must inform the organisation's next steps.

It is likely that the baselining process will reveal gaps between existing levels of spending and the level required to meet the organisation's climate change and environmental objectives. This can help the next step in the process, identifying the spending priorities for the organisation.

Green budget tagging: Identifying climate- and sustainability-related expenditure

The first step taken by public sector organisations implementing green budgeting is often an exercise to identify the budget elements relevant to addressing climate change. The key aspect for organisations to consider is the scope.

This can be defined narrowly: for example, those activities that directly contribute to emissions reductions, or more widely: such as all spending that contributes to a low-carbon environmentally sustainable economy.

Once the definition has been agreed, these items can be tagged, a process known as **green budget tagging** or climate budget tagging. This process, alone, does not provide enough information to determine whether the level of spending is sufficient or provides value for money. But it is a crucial first step in fact finding, promoting transparency and enabling the public to see how the organisation's spending is directed to tackling climate change and promoting sustainability.

For green budget tagging to be effective, it must be more than an awareness-raising exercise. It supports organisations to build up a comprehensive picture of how all their activities affect climate and the environment. This should then help to inform budget planning and allocation decisions, linking objectives directly to spending plans. It can enable links to be made between different programmes, providing opportunities for better co-ordination or economies of scale.

Green budget tagging can also facilitate the identification of eligible projects and track expenditure for financing green bonds. Public sector organisations issuing these bonds are required to provide allocation reports to investors and budget tagging can help ensure consistency and alignment with the requirements of managing green bonds.

Public sector organisations can take an adaptive approach to green budget tagging, enabling the scope and complexity of the process to scale up as organisational capacity increases. For example, budget measures which undermine climate and environmental goals could also be tagged, to establish a more comprehensive evidence base of how the organisation's activities support or conflict with its green objectives.

Ensuring the right conditions for green budget tagging is essential. The criteria for tagging expenditure should link to the organisation's climate change and environmental objectives. Tagging should be carried out at a sufficiently detailed level to provide meaningful information for budget decision makers. A weighting system could be implemented to take account of the relevance of different budget measures. Ultimately, green budget tagging works best as part of a broader approach to green budgeting.

STEP 2: Prioritise spending with the most impact

Prioritising expenditure on activities that have the greatest impact on the organisation's climate change and environmental objectives is crucial, given the public sector's generally limited resources. This involves a consistent approach to evaluating proposals for new spending and aligning the budget with the priorities and commitments organisations have made.

Bringing together the expertise of all the organisation's staff to support this assessment is critical. While resourcing and capabilities will differ between organisations, this could include environmental and climate change specialists, economists and those involved in the delivery of services, together with the finance function.

FINANCE PROFESSIONALS SHOULD TAKE THE LEAD IN IDENTIFYING THE IMPACT OF PROPOSED SPENDING, EVALUATING THE EFFICIENCY, EFFECTIVENESS AND ECONOMY OF PROPOSED OPTIONS.

Finance professionals should take the lead in identifying the impact of proposed spending, evaluating the efficiency, effectiveness and economy of proposed options, with support from colleagues with expertise on the environmental dimensions of policies. Cost benefit analyses and environmental impact assessments are both effective ways of analysing individual proposals.

The budget provides a clear framework for aligning priorities with spending. It enables a consistent and rigorous approach to considering proposals for new expenditure. Importantly, the budget process also engages key decision makers in public sector organisations. Using green budgeting tools ensures an organisation's climate and environmental priorities are embedded in the decision-making process.

Environmental impact assessment and environmental cost benefit analysis

An important part of the budgeting process is assessing proposals for new spending. All new budget measures should be evaluated for their potential impact on climate and environmental objectives.

Environmental impact assessments are a tool commonly used to evaluate proposals and inform budgeting decisions. They can be integrated into existing processes, alongside value-for-money assessments of economy, efficiency and effectiveness. As a starting point, the proposal can be assessed against its contribution to an organisation's green objectives, to determine how far it aligns with them.

Building on this approach, the impact, contribution and purpose of proposals can be assessed (Bova, 2021).

- **Impact:** the quantifiable effect, either estimated or calculated, that a measure has on a specific environmental indicator (e.g. carbon emissions).
- **Contribution:** the expected effect of a budget measure without quantification, in cases where the outcome is less certain or cannot be accurately predicted.
- **Purpose:** the overall purpose of a budgetary item, assessing whether achieving a specific environmental impact or contribution is a direct objective.

Some organisations undertake **environmental cost-benefit analyses** of policy proposals. This should involve estimating the potential monetary costs and benefits for the organisation itself. Where possible, this should be extended to assess the proposal's wider direct and indirect impacts on the environment. This enables the full costs of an activity on the environment to be understood and used to inform decisions.

Environmental impact assessments and cost-benefit analyses should also be at the heart of processes for appraising and selecting capital investment proposals. This is especially important for those sectors that have the greatest impact on GHG emissions, such as transport and infrastructure.

Both these approaches will involve developing expertise that may not already exist in every public sector organisation. There will be a financial cost in staff time in establishing the process and ensuring staff have the right skills to operate and maintain the process effectively.

Assessing expected environmental impacts will also involve making assumptions. Reliable information on potential effects is not always available, especially at the initial stages of policy development. To ensure credibility, public sector organisations must be transparent in evidencing the approaches used.

Despite these challenges, the cost of inaction is much greater than the cost of timely action. Without a detailed understanding of the effects of proposals on the environment, the public sector will not achieve the climate targets to which governments have committed themselves. Ensuring a coherent and integrated approach to impact assessments and cost-benefit analysis will reinforce the importance of the agenda and steer action towards developing methodologies and tools within organisations to measure environmental impacts.

It is important to recognise that organisations will all move at different speeds in implementing these approaches. Getting started can sometimes be the biggest challenge, but not every element of the eventual arrangements needs to be in place at the outset. Like green budget tagging, processes can evolve over time, as understanding and expertise develops within each organisation. Finance professionals can play a crucial role in driving change, advocating an ambitious approach that takes account of organisational capabilities and resources.



STEP 3: Categorise and monitor spending

Once spending decisions have been made, planned spending should be categorised in the budget system, to capture its intended purpose in as much detail as practicable. Effective budget systems can support the production of comprehensive accounting and statistical data on green spending. Accurate information will be essential for reporting on the use of green bond proceeds, as well as grants that public sector organisations receive for specific environmental purposes.

FINANCE PROFESSIONALS ARE INTEGRAL TO DESIGNING AND OPERATING EFFECTIVE BUDGETING AND FINANCIAL SYSTEMS IN THE PUBLIC SECTOR.

Finance professionals are integral to designing and operating effective budgeting and financial systems in the public sector. Detailed and accurate recording of budgeted and actual expenditure is a requirement for international donors and governments providing grants to other public sector organisations. Making such data publicly available improves transparency and strengthens accountability for public spending.

Ideally, financial and performance management systems should be linked, to provide decision makers with comprehensive information linking progress on priorities to spending. Even if it is not possible to integrate the systems themselves, adopting this approach for budget monitoring will give public sector organisations better understanding of their progress towards their objectives.



STEP 4: Ensure external review

To ensure the credibility of the budget, mechanisms for external oversight must be in place. Generally, public sector organisations are subject to external audit. Some countries have also established bodies, independent from the main structures of government, to act as environmental or climate 'watchdogs'. The number of countries with independent fiscal institutions or councils is also increasing. All these structures have an important role to play in green budgeting.

FINANCE PROFESSIONALS WORKING IN AUDIT INSTITUTIONS CAN USE THEIR EXPERTISE TO ASSESS WHETHER SPENDING ON CLIMATE AND ENVIRONMENTAL OBJECTIVES IS BEING PROPERLY ACCOUNTED FOR AND ACHIEVING VALUE FOR MONEY.

Finance professionals working in audit institutions can use their expertise to assess whether spending on climate and environmental objectives is being properly accounted for and achieving value for money. External audits could also assess compliance of public sector projects with climate-related objectives and requirements, either by undertaking a dedicated audit or as part of existing audit approaches.

Audit reports and assessments of the fiscal impacts associated with climate and environmental risks should be made public as far as possible. Similarly, the methodology and assumptions used in green budgeting approaches could be scrutinised by auditors or environmental and climate institutions. This external evaluation will promote accountability and transparency and avoid accusations of 'greenwashing'.



STEP 5: Learn and improve

As the green budgeting approach develops, public sector organisations must ensure that the process continues to evolve. Green budgeting is an iterative and adaptive approach; it can be built on over successive budget rounds as capacities develop and systems are enhanced. Approaches could be strengthened by developing methodologies to assess the impacts of spending where the environmental effects are more difficult to identify or by including the effect of revenue-raising measures.

FINANCE PROFESSIONALS ARE EXPERIENCED AT BALANCING THE INTERESTS OF DIFFERENT STAKEHOLDERS; PROFESSIONAL ACCOUNTANTS' DRIVE, AS WELL AS THEIR ETHICAL COMMITMENT AND INTEGRITY, CAN GUIDE ORGANISATIONS AS THEY REVIEW THEIR APPROACH.

Finance professionals are experienced at balancing the interests of different stakeholders; professional accountants' drive, as well as their ethical commitment and integrity, can guide organisations as they review their approach. It is important that the tools and methods used take account of the needs of decision makers, external bodies and the wider public, to ensure the process remains relevant and credible.

Public sector organisations should put in place a comprehensive approach to training and development of finance staff in green budgeting, to build awareness and strengthen expertise. Guidance from central budgeting teams to individual departments must be clear; strong collaboration between the finance function and climate and environment specialists within the organisation is crucial. Adapting the budget and reporting process to ensure it meets best practice and stakeholders' needs is a continuous process.

Conclusion

To meet governments' commitments to tackle climate change, the public sector must embrace green budgeting. Increasingly, public sector organisations are developing delivery plans to meet their climate and environmental targets. Even so, too often these strategies lack a critical element: a funded plan with detailed actions aimed at achieving these ambitions.

An organisation's budget is the best way of ensuring priorities are turned into action. Green budgeting offers numerous different methods for integrating climate change and environmental considerations into public sector organisations' core budget processes. When starting on the green budgeting journey, organisations must be clear about their principal objectives and adopt the most appropriate approach.

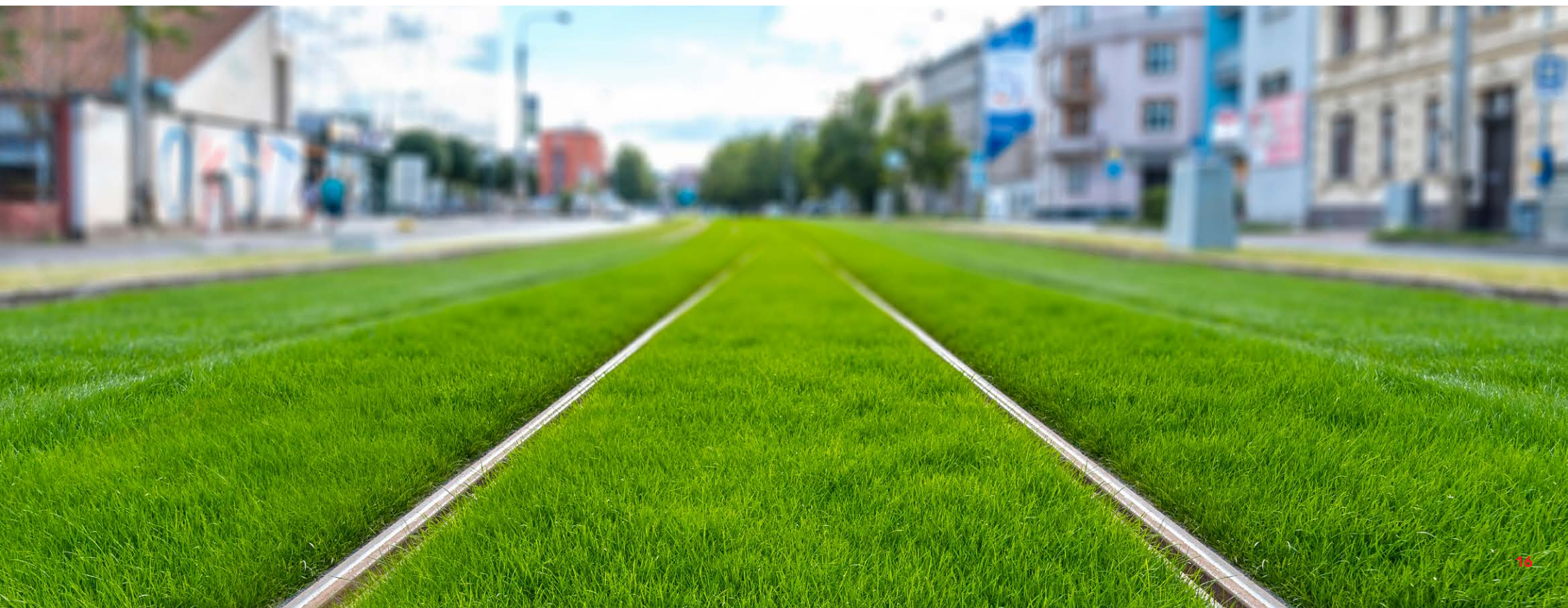
Whatever an organisation's specific reasons for adopting green budgeting are, the right conditions are needed to make it a success. At the outset, political leaders need to understand and support the organisation's approach to green budgeting. Methods used must build on existing budget processes and, wherever possible, the whole public sector in a country should begin implementing green budgeting.

Effective implementation of green budgeting requires five steps, which build on the existing budget cycle process. Finance professionals are fundamental to each of these steps in developing, implementing and sustaining green budgeting approaches. As the case studies in the Appendix show, this includes identifying gaps in resources available and proposing options and solutions.

Professional accountants at the heart of green budgeting will enable public sector organisations to turn goals and ambitions into costed plans for the funding and delivery of actions needed. Finance professionals understand the resource constraints that the public sector generally faces and are used to working with senior managers and, where relevant, elected officials to ensure priorities are reflected in the budget.

Green budgeting will not solve the climate crisis on its own, but by providing a framework for public sector organisations to put their climate change and environmental objectives into practice, it can highlight the issues and provide an integrated approach.

**GREEN BUDGETING PROVIDES
A CONSISTENT, COHERENT AND
COMPREHENSIVE PLATFORM FOR
EVERY PUBLIC SECTOR ORGANISATION
TO SUPPORT THE TRANSITION TO
A MORE SUSTAINABLE SOCIETY.**





Appendix: **Learning from others**

Green budgeting approaches are being adopted by different types of public sector organisations across the world. Our case studies highlight examples from Canada, Kenya, London, Odisha and Singapore. While the organisations in each of these examples have the same overall objective of reducing emissions, each has its own specific reason for adopting a particular approach to green budgeting.

Government of Canada: Emissions Reduction Plan and Federal Budget

In 2021, Canada's federal government committed to a GHG emissions reduction target of 40 to 45 per cent below 2005 levels by 2030, as part of an enhanced nationally determined contribution (NDC) to the UN's Paris Agreement. This commitment was enshrined in law in the Canadian Net Zero Emissions Accountability Act, which requires the government to set national targets for GHG reductions every five years from 2030 onwards.

The Government of Canada published its 2030 Emissions Reduction Plan (ERP) in July 2022, which set out a roadmap for each sector to achieve this new emissions reduction target (Environment and Climate Change Canada, 2022). The Plan, which included C\$9.1 billion in new investments, reflects economy-wide measures, such as carbon pricing and clean fuels, as well as high-level funding allocations for the proposed actions on a sector-by-sector basis.

Shortly after the publication of the ERP, the government announced its federal budget for 2022 (Department of Finance Canada, 2022). The budget is divided into chapters focusing on the government's policy priorities, including a 'Clean Air and a Strong Economy' chapter. Allocations of the C\$9.1 billion in new funding announced in the ERP are outlined in a table in this chapter, which shows funding for each measure, cross-referenced to the relevant sections of the budget document and page numbers for the ERP.

Further details of the federal government's spending on climate change objectives is set out in the 'Clean Air and Strong Economy' chapter. Tables show a baseline year for spending and planned spending over the five years from 2022-23 onwards. The tables also show the level of funding sourced from existing departmental resources, demonstrating clearly the new additional funding allocated to priorities.

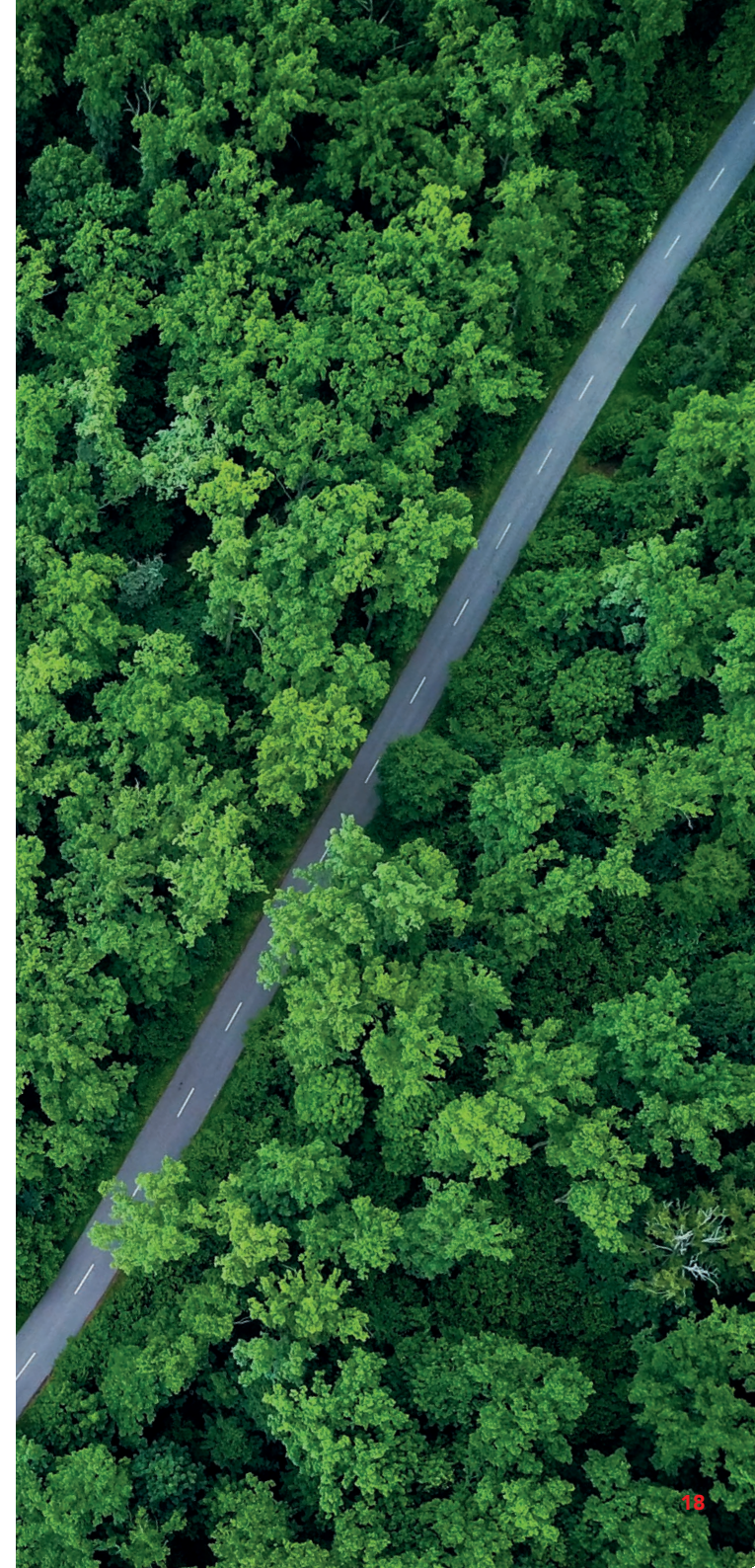
Although the Canadian government has not explicitly adopted a green budgeting approach, it transparently links its core climate change objectives, outlined in the ERP document, to funding allocations in the budget. It has a

clear implementation plan in the ERP and a well-established system of assessment, monitoring and reporting, including the Government of Canada's 'horizontal initiatives' approach.

Horizontal initiatives are designated by the government for key initiatives which are the responsibility of more than one department. The approach complements the budget and ERP documents by providing consolidated performance and financial information, enabling decision makers and citizens to assess whether initiatives are being implemented as planned and achieving the results anticipated.

The horizontal initiatives approach will be an important tool for monitoring spending on climate change priorities, which often involve significant levels of funding and are implemented across different departments. It should also support reporting and planning for the use of proceeds from green bonds, which the Canadian government has begun issuing. Like Singapore, Canada has adopted the International Capital Markets Association (ICMA) Green Bond principles and also links these principles to UN SDGs.

One example of a horizontal initiative is 'Enhanced Nature Legacy for Canada', which involves a lead government department and three other agencies (Environment and Climate Change Canada, 2022). Tables published by the lead department show total funding for each body to achieve the shared outcomes and planned spending for individual activities contributing to each outcome. Alongside this data, the department publishes performance information, including planned outcomes, progress and target dates.



Government of Kenya: Tracking climate change spending

The Kenyan government's 'Vision 2030' is of becoming an industrialised, globally competitive middle-income country by 2030. At present, Kenya's economy depends significantly on its natural resource base and is vulnerable to climate change. In particular, climate change has increased the frequency and magnitude of extreme weather events in the country.

The government recognises the threat climate change poses to its society and economy, as well as the achievement of Vision 2030. As part of its nationally determined contribution (NDC) to the Paris Agreement, it has estimated the current cost of implementing the necessary mitigation and adaptive action is KES6,755 billion (US\$65 billion) between 2020 and 2030.

The Kenyan government is developing a comprehensive approach to identifying spending on measures to adapt to and mitigate climate change. In March 2021, Kenya's National Treasury, supported by international donors, published 'The Landscape of Climate Finance' report (Republic of Kenya, National Treasury and Planning, 2021). Its purpose was to map funding of climate-related initiatives across the public and private sector.

The study was the first attempt in the country since the Paris Agreement to track overall climate-related expenditure and assess whether it is sufficient to meet the ambitions of Kenya's climate goals. It focused on a single financial year (2017-18) to assess the flows comprehensively, and to enable comparison of sources and sectors.

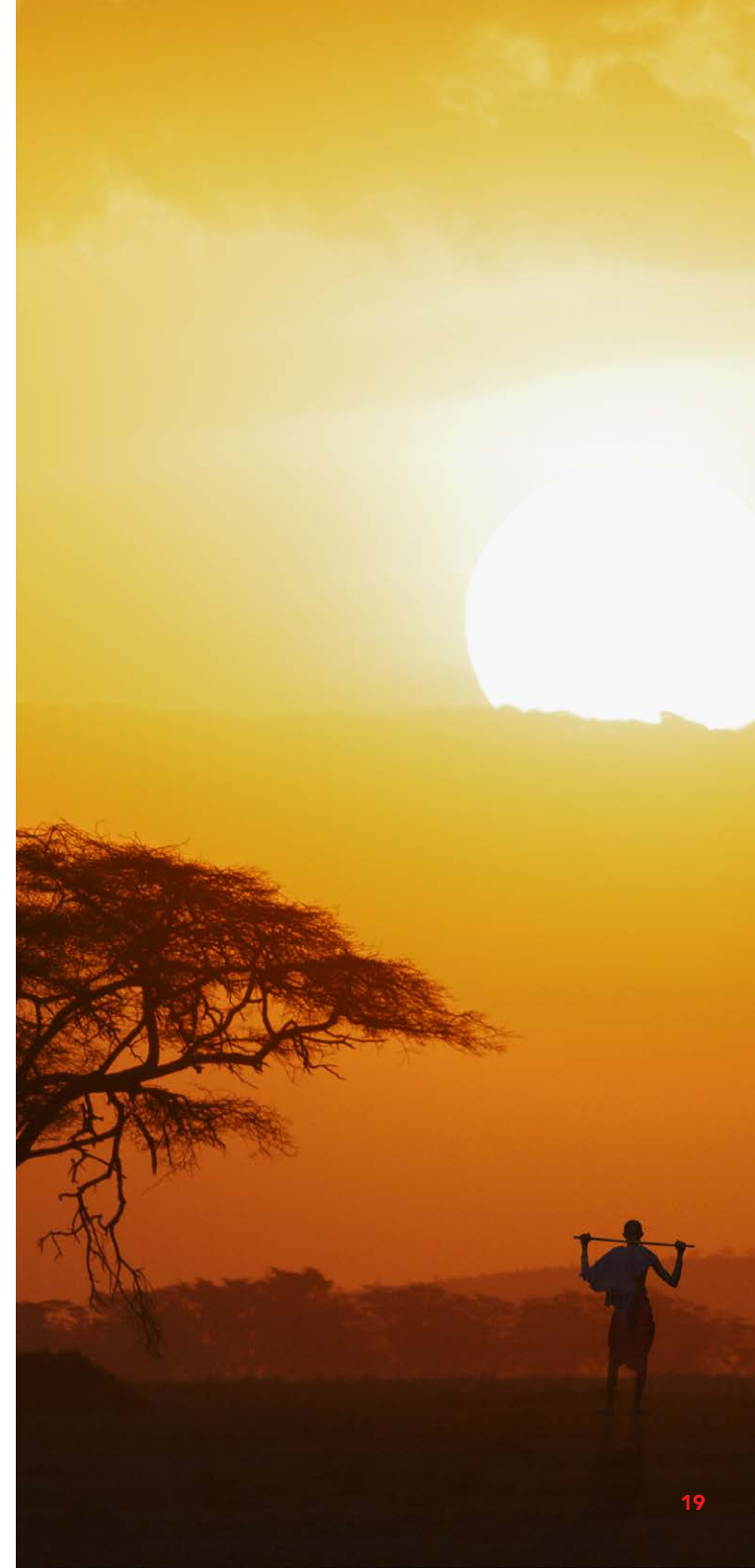
For public spending, the study collected expenditure data from the Kenyan government's Integrated Financial Management Information System (IFMIS). It included spending by both central and local government (counties) and semi-autonomous government agencies, supplemented by a dedicated survey. The IFMIS was also used to capture data on international public finance flows, complemented by information from the OECD and databases of other organisations. Private sector and civil society data was obtained through a combination of desk-based research and surveys of numerous corporations and banking sector organisations.

The analysis provides a detailed overview of the sources of climate finance, showing that public budgets provided 59% of finance, with the remainder funded by the private sector. The data also showed the split between the domestic and international sources of the finance. In total, international actors contributed 58% of all climate-change finance in Kenya.

The purpose of the spending was categorised into the priority actions outlined in Kenya's National Climate Change Action Plan, which sets out the level of funding required in each sector to meet Kenya's NDC targets. The tracking showed that spending in the energy, health, and manufacturing sectors fulfilled budgeted needs. Nonetheless, it showed gaps between the ambition and actual spending in the adaptation sectors, particularly water and the blue economy (marine environment).

The report demonstrated the importance of accurate and comprehensive data for tracking climate expenditure, which was tracked manually to generate the report. The National Treasury has started requiring all its ministries, agencies and county-level governments to report quarterly on their climate-related investments. The Kenyan government is also making significant progress on tracking climate related inputs and outputs in its IFMIS.

Kenya is now implementing a form of green tagging with the introduction of a new segment in the chart of accounts to code and track climate-related expenditures, using a four-digit code. The first two digits refer to the subject of tagging (e.g. climate change), the third digit shows the focus (adaptation, mitigation, or both), and the fourth digit classifies whether the aim of the expenditure is directed to climate change, (i.e. principal, significant, or not-targeted). Only budget items where more than 25% of the amount is allocated to climate-related activities are considered relevant and tagged.



Greater London Authority: Climate Budgeting

The directly elected Mayor of London has responsibility for setting the budget for key public services including London's transport authority, police service and fire service, as well as other strategic functions. Together these organisations are part of the city-wide government for London, known as the Greater London Authority (GLA) Group, with a combined revenue and capital budget of over £19 billion in 2022-23.

The annual budget process is at the centre of how the mayor exercises authority. Each year, the mayor publishes a Budget Guidance document (GLA, 2022), equivalent to a budget circular in other jurisdictions. This sets out both the high-level principles and overall funding allocations for each part of the GLA Group. For the first time, the document published in July 2022 includes guidance on how climate considerations are to be integrated into the overall budget process.

The mayor has set an ambitious target for London to generate net zero carbon by 2030. The mayor also chairs the C40 Cities group, a global network of 96 city mayors who have committed to taking urgent action on climate change. C40 has developed its own green budgeting approach, known as 'climate budgeting', which it defines as a 'governance system which embeds climate targets and considerations into all decision-making as part of a city's ordinary budgeting process' (C40, 2021). London is part of a C40 climate budgeting pilot along with eleven other cities. It is the first to incorporate climate budgeting into its budget guidance or circular.

In the first year of implementation, each part of the GLA Group will be required to identify, quantify and cost actions to reduce the Group's own emissions. This will include the land and buildings it manages, as well as its operational fleet of emergency vehicles and public transport. The climate budget will identify funded actions to reduce emissions and the expected level of reduction the actions will achieve, against a baseline. It will also highlight the additional actions and expected costs required to reach net zero by 2030.

In the GLA's first climate budget there are likely to be fewer long-term actions, as implementation plans and teams to deliver them are still being established. Actions needed should become clearer and more comprehensive in subsequent years. Indeed, this is one of the key features of climate budgeting: it uses the budget process to identify and highlight 'gaps' and where further planning and funding will be required to close those gaps in subsequent years.

In future years, the process will widen in scope, beyond the GLA Group's direct activities to set out funded and unfunded actions needed to reduce emissions from key sectors across London; this will include the emissions reductions associated with each action and the relevant costs. Extending the approach in this way, C40 believes, could demonstrate the scale of the challenge and give greater leverage to city mayors in their discussions with the private sector, and other tiers of government and public sector organisations. In effect, it could help to catalyse action across sectors, by locating interdependencies and showing the potential for coordination.

The climate budgeting approach is intended to provide transparency and heighten awareness of climate action, both within the organisations that make up the GLA Group and among the wider public. Finance professionals coordinating the budget process are at the heart of this approach. Integrating the London Climate Budget into the GLA's financial budgeting process demonstrates political commitment to achieving net zero and highlights the scale of the challenge.



State of Odisha: Climate Budget

The government of Odisha, a coastal state in eastern India, first introduced a State Action Plan on Climate Change (SAPCC) in 2010. The document has been revised subsequently and is now aligned to the Indian government's NDC targets for 2030 (Government of Odisha, 2018). The state regularly experiences tropical cyclones and flooding, and its government recognises its vulnerability to climate change.

The SAPCC identifies the state government's priorities for climate change mitigation and adaptation in eleven priority departments. Building on this approach, the government undertook a Climate Change Impact Assessment to measure the climate relevance of spending on each budget programme and its vulnerability to the effects of climate change.

Each programme is given a percentage score, known as its Climate Change Relevance Share. This helps the state government to identify the schemes and programmes across departments which have the most relevance to climate change mitigation and adaptation. The information can support prioritisation and planning and enable decision makers to assess which areas of spending support climate change objectives.

In addition, programmes are also given a score assessing the extent to which they could be impacted by climate change. This is known as the Climate Change Sensitivity Share (CCSS) and identifies those schemes and programmes which are most vulnerable to the effects of climate change. This enables the government to target areas of expenditure for further intervention to strengthen the climate resilience of programmes.

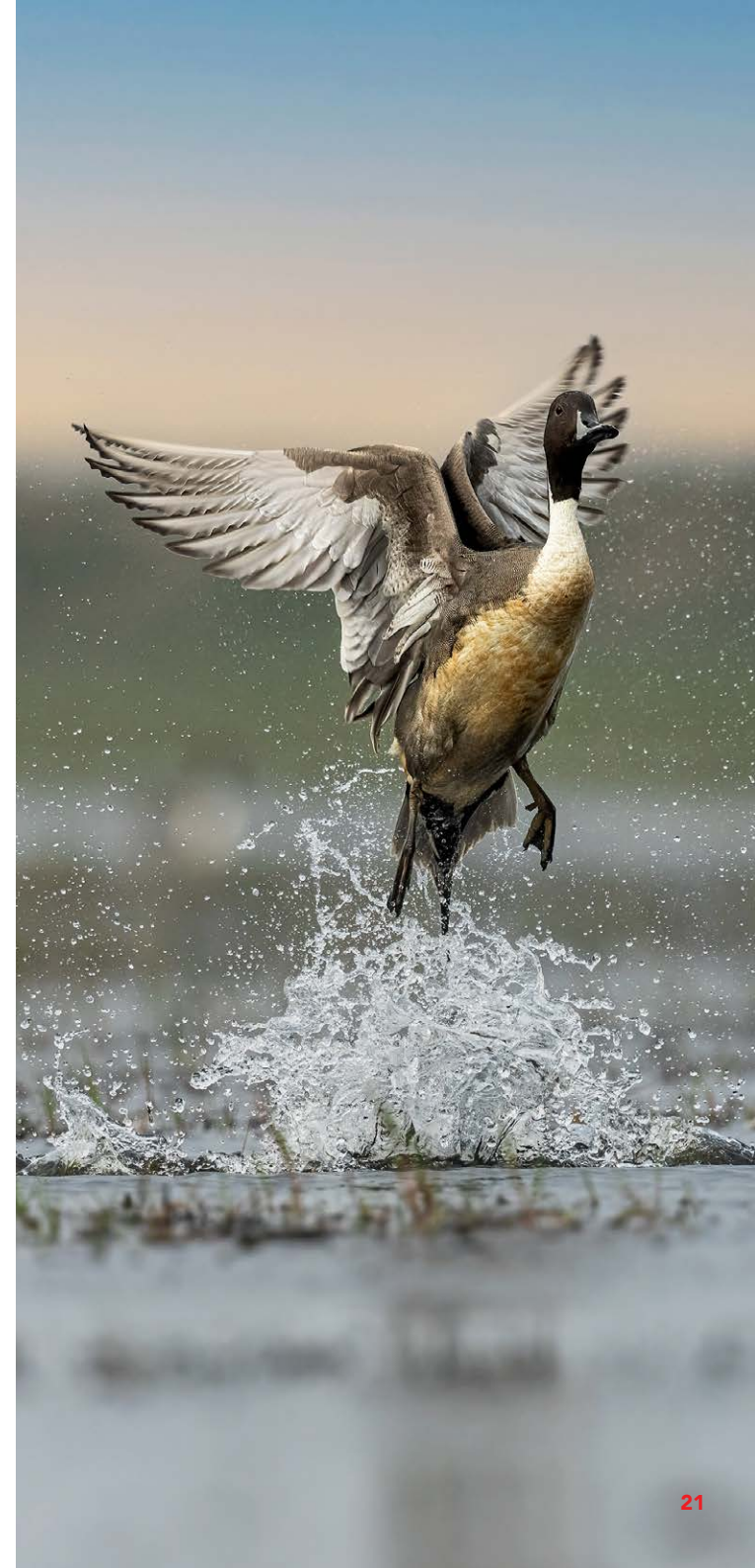
Coordinating data compilation for the impact assessment initially proved a challenge for the state government, as it was difficult to identify and tag programmes. The work was led by the Odisha Climate Change Cell, within the state government's Forest and Environment Department. Several rounds of discussions took place between the Cell and departments, followed by interactive workshops, to develop a common understanding of the issues.

Based on this initial impact assessment, Odisha became the first state in India to introduce a Climate Budget document for the 2020-21 financial year. Since then, the state government has published an annual Climate Budget, identifying the proportion of expenditure related to climate change for each department using budget coding, effectively a green or climate budget tagging approach.

Successive budgets enable comparisons to be made. The 2022-23 budget includes tables which show, for each department, a high-level summary of the proportion of climate-related expenditure for 2020-21, 2021-22 and 2022-23 (Government of Odisha, 2022). It also highlights the proportion of positive and negative climate change sensitive expenditure for the same years.

This transparent approach allows decision makers and the public to assess the state government's progress on aligning expenditure with its climate priorities. The budget also shows the proportion of expenditure which has been coded to assess its climate relevance and sensitivity. For some departments the proportion is relatively low, highlighting whether further work from departments is required to assess the effect of spending.

Odisha's government has published three annual climate budgets and the overall amount of budgeted climate-related expenditure has increased significantly between 2020-21 and 2022-23. This may reflect improvements of categorisation, as well as actual increases in expenditure on climate-related programmes. In the budget document, the government emphasises the role of the budget itself in providing guidance to departments to better align expenditure with climate change objectives over successive financial years.



Government of Singapore: Green Bonds

The Singapore government published the Singapore Green Plan 2030 in 2021, setting out a ‘whole-of-nation’ agenda and targets over the next decade, to meet its commitments under the United Nation’s 2030 Sustainable Development Agenda and the Paris Agreement (SG Green Plan, 2022).

In its 2022 Budget, the government announced that, as part of its decarbonisation efforts, it would issue S\$35 billion (US\$26 billion) of green bonds by 2030, to fund public sector green infrastructure projects. The government also sees the issuance of public sector green bonds as an important way of strengthening Singapore’s wider green finance market, which is already the largest market for green bonds and loans in the Association of Southeast Asian Nations (ASEAN), accounting for almost half of transactions.

The Ministry of Finance (MoF) published the Singapore Green Bond Framework in June 2022, outlining its approach in more detail (MoF, 2022). It highlights three principles to ensure that the green bonds issued by the public sector are high-quality:

Principle 1: Alignment with international guidelines and market best practices for green bond issuances: All green bonds issued under the Framework will conform to the four core components of the ICMA Green Bond Principles and the ASEAN Green Bond Standards: use of proceeds, project evaluation and selection, management of proceeds and reporting.

Principle 2: Ministerial oversight of project selection and allocation of proceeds: The Second Minister for Finance chairs the Green Bond Steering Committee (GBSC), which has overall responsibility for proper governance of the Framework, to provide transparency and accountability.

Principle 3: Technical screening for green projects: Criteria for the eligible green expenditure have been developed with reference to existing market standards and principles, including the ICMA Green Bond Principles.

The Framework highlights eight categories of eligible green expenditure, including sub-categories and examples of expenditures. The categories are also mapped to the Singapore Green Plan’s Pillars and UN SDGs:

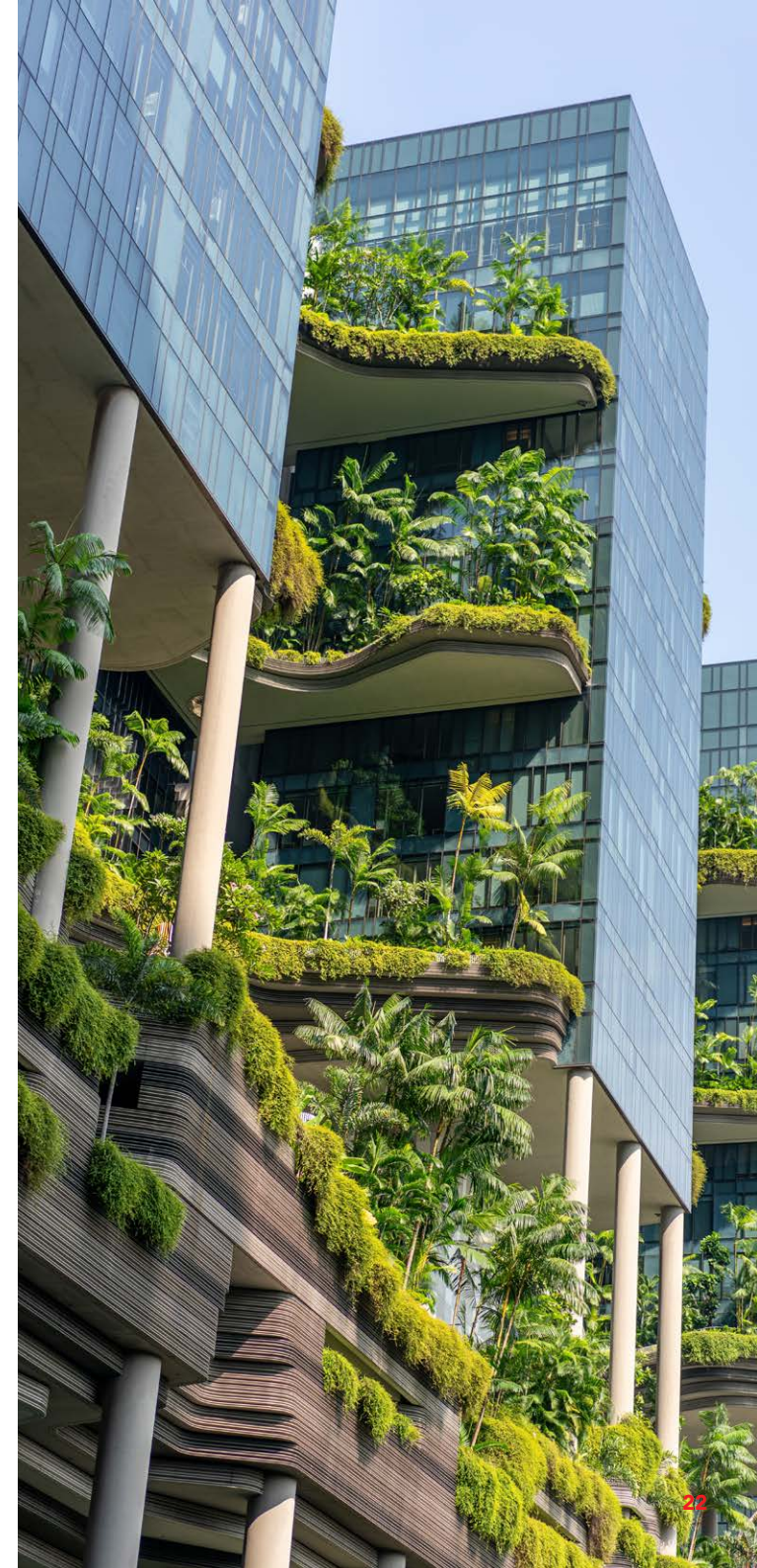
- Renewable Energy
- Energy Efficiency
- Green Buildings
- Clean Transportation
- Sustainable Water and Wastewater Management
- Pollution Prevention, Control and Circular Economy
- Climate Change Adaptation
- Biodiversity Conservation and Sustainable Management of Natural Resources and Land Use

The GBSC, chaired by the second minister and including senior officials from various government bodies will make key decisions on the bonds issued under the framework, including the evaluation and choice of projects. Once received, net sovereign green bond proceeds will be allocated only to projects approved by the GBSC, and funds are applied within two to three years of issuance.

The relevant government department or agency will have responsibility for project implementation, keeping track of how proceeds are used and reporting impact. The MoF has committed to annual reporting on both the allocation of the funding and its expected impact.

Allocation reporting will include the total value of green bonds outstanding, a breakdown of allocation by eligible green expenditure sub-categories and information on the amounts allocated, with descriptions of the eligible green expenditure.

Annual impact reporting will set out the estimated environmental benefits and, where possible, the social co-benefits of the eligible green expenditure, to provide timely, updated information to investors and others. The Framework provides examples of the environmental impact indicators to be reported, depending on the categorisation of the project.



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