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Green Budgeting: Governing Green through the budget cycle

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This paper discusses how climate and environmental considerations are being integrated into the budget process in OECD countries. It has been informed by the 2022 OECD Survey on Green Budgeting and the work of the OECD Paris Collaborative on Green Budgeting. The paper highlights where finance ministries have made the greatest progress in the implementation of green budgeting.

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Table of contents

Introduction	3
1. Integrating green into the budgeting cycle.....	4
2. Achieving impact beyond ministries of finance	8
3. Advancing green budgeting	13
Conclusions	18
References	19

Tables

Table 1. Cross-government co-ordination	9
Table 2. General approaches to modelling climate change	14

Figures

Figure 1. Green budgeting in OECD countries in 2022	4
Figure 2. Green budgeting and the budget cycle	5

Boxes

Box 1. Aligning priorities in Canada	6
Box 2. Increased use of tax expenditure in Switzerland	7
Box 3. Green budget statements in Spain	7
Box 4. Developing budget oversight on climate change in Portugal	10
Box 5. Proposed climate-related disclosures in the private sector	11
Box 6. OECD Climate Actions and Policies Measurement Framework	15
Box 7. Quantifying the fiscal risks of climate change in the United States	16

Introduction

1. In March 2023, the Inter-governmental Panel on Climate Change (IPCC) released its sixth assessment report which showed that the scale of climate change is expected to increase over the next 20 years, and global temperatures are expected to reach or exceed 1.5°C, despite the efforts that countries have taken to date (IPCC, 2023^[1]). Disruptions to economic output from Covid-19 contributed to many countries meeting the targeted levels of emissions in 2020, however the outlook for the 2030 targets is likely to require substantive action. One of those actions has been to integrate climate change considerations into budget frameworks and policies to help inform budget prioritisation and decision making.

2. OECD countries have adopted green budgeting – the integration of climate and environmental considerations into budgeting – at a rapid rate. Findings from the 2022 OECD Green Budgeting Survey show that ministries of finance are mainstreaming the implementation of green budgeting, and green budgeting is evolving from a series of pilot initiatives into core expectations of the budgetary arrangements in a country. The 2022 survey shows that two-thirds of OECD countries have adopted green budgeting, an increase of approximately 60% since the 2021 survey (OECD, Forthcoming^[2]).

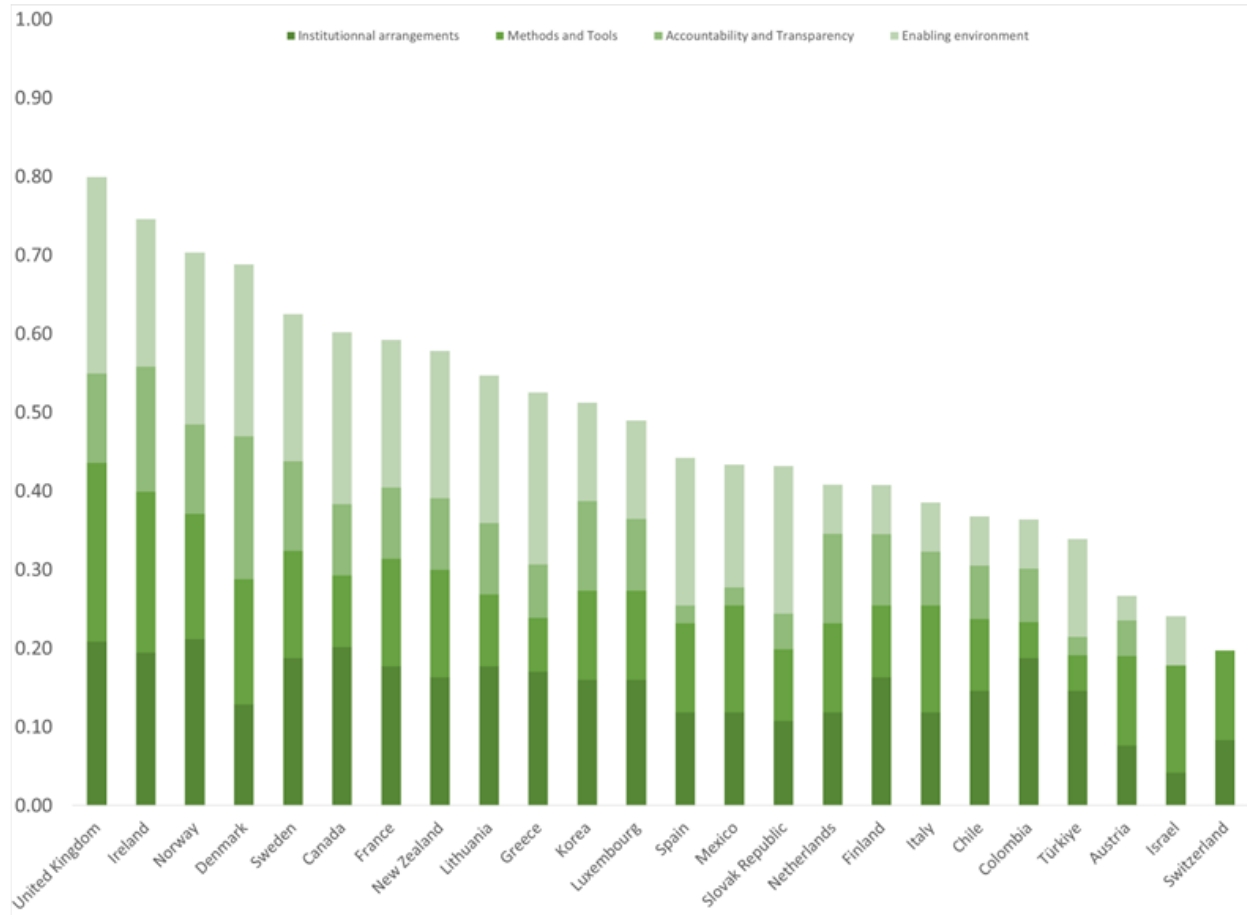
3. The developments in green budgeting take forward the public governance changes that are needed to implement green policies and promote other social and economic priorities, as identified in the OECD’s Reinforcing Democracy Initiative (OECD, 2022^[3]). The developments are also relevant to the findings from the OECD Survey on the Drivers of Trust in Public Institutions which showed that around half of respondents believe that governments should prioritise climate change, but only one third of respondents were confident that governments would reduce their country’s contribution to climate change (OECD, 2022^[3]). The finding underscores the importance of green budgeting in helping governments make progress on climate change commitments.

4. OECD countries are showing increased capacities in green budgeting. Figure 1 shows the ratings in each of the four building blocks (institutional arrangements; methods and tools; accountability and transparency; and enabling environment) of the OECD Green Budgeting Framework (OECD, 2020^[4]). Three impacts in particular to highlight from these increased capacities:

- Initiatives have continued to be applied across each of the four building blocks in the OECD framework.
- Over a relatively short period (12-18 months) countries have increased their position in Figure 1 relative to the 2021 survey.
- The results achieved appear to be driving ongoing efforts to increase the relevance of climate information for decision making in budget processes.

5. This paper discusses these developments by identifying the ways in which ‘green’ has been integrated into the budget cycle, the expansion of green budgeting beyond the ministry of finance, and the advanced practices that are helping to maximise the impact of green budgeting in decision-making.

Figure 1. Green budgeting in OECD countries in 2022



Source: OECD (2022), OECD Green Budgeting Survey

1. Integrating green into the budgeting cycle

6. Green budgeting refers to integrating climate and environmental considerations into budget frameworks and policies. In this regard, green budgeting is not a separate budget, but a climate and environment-informed budget process. The adoption of green budgeting does not necessarily result in reaching a green target, instead, green budgeting informs budgetary and fiscal decisions on changes to the composition of revenue, expenditure, and public debt over time.

7. The budget cycle can be represented through a five-stage process that involves setting parameters and priorities when planning the budget, analysing and prioritising policies when preparing the budget, seeking a democratic approval of the budget, implementing the approved budget, and reporting on the results achieved and with independent oversight (Figure 2).

Figure 2. Green budgeting and the budget cycle



8. Central budget authorities perform roles and have responsibilities in each of the five stages of the budget cycle. The 2022 OECD Green Budgeting Survey shows that the integration of climate and environmental considerations into budgeting is relevant to each of the five stages, as illustrated by the bullet points in Figure 2.

9. Ministries of finance have performed a significant role in integrating climate and environmental considerations into the planning stage of the budget cycle. The most relevant aspects are:

- Institutional arrangements on roles and responsibilities
- Alignment with medium-term priorities
- Macro-fiscal projections
- Medium-term expenditure framework
- Capital budgeting framework
- Fiscal risk management

10. The degree of integration of these elements into budget planning varies across OECD countries, depending on national priorities and resources. Two of the mostly widely adopted practices have been to define the institutional arrangements and to align medium-term priorities on climate change across government.

- When defining roles and responsibilities on green budgeting, governments have tended to use administrative arrangements, such as budget circulars. The circulars provide more flexibility than legislation when the scope and scale of green budgeting is still evolving. In cases where legislation has been adopted, it has been enacted in combination with administrative arrangements.
- The alignment of medium-term priorities is evident from climate mitigation and climate adaptation strategies forming part of governmental priorities in budgets.

The alignment of medium-term priorities illustrates the budget as a key means of giving effect to policy priorities, as seen in Canada (Box 1).

11. In some countries, alignment with medium-term priorities has been achieved from adding a green dimension to recovery and resilience plans following Covid-19, and from preparing national development plans. Ireland provides an example of the latter, and the time horizon for Ireland's National Development plan aligns with the delivery of interim targets in 2030 under the Paris Agreement. The delivery of the plan has been strengthened by the government making it a core responsibility of the Department of Public Expenditure, National Development Plan Delivery, and Reform. Supporting these organisational responsibilities in the Irish government are cross-governmental requirements under the Public Spending Code and the Public Financial Procedures Book (Government of Ireland, 2021^[5]).

Box 1. Aligning priorities in Canada

In 2022, the Federal government introduced its 2030 Emissions Reduction Plan, which establishes a roadmap for Canada to reduce emissions by 40% below 2005 levels by 2030 and a target of net-zero emissions by 2050. The plan provides a roadmap for the federal and provincial governments to achieving these targets, and outlines the additional efforts the Federal government is taking to meet the targets and lay the foundation to net-zero emissions by 2050. The plan also identifies priorities that are to help align new spending across governments on initiatives that cut pollution, invest in renewable energy, and support green technology. The plan provides for progress reports to monitor developments and is supported by co-ordination and assessment tools to help standardise and build expertise on the prioritisation of initiatives that are to contribute towards the goals in the plan.

12. The way in which green budgeting is applied in budget negotiations varies by country and cannot be isolated to a single element that is determinative to budget negotiation outcomes. However, the elements in the budget planning stage are influential to budget negotiations as they provide a signal to ministries that climate-related proposals are likely to form part of the government's prioritisation criteria. The elements from budget planning can also inform the design of the criteria, for example by prioritising proposals from high-emitting sectors.

13. The use of earmarked revenue from carbon taxes and/or emission trading schemes has increased the relevance of climate-related spending proposals. Although the incentive effects from earmarked funds are not always desirable, as beneficial policies that are not relevant to climate change may end up not being funded; the earmarked funds can increase the range of climate proposals that ministries submit to central budget authorities. Examples of countries that have established earmarked funding include Luxembourg, New Zealand and Switzerland. In each case, forecasts estimate the expected revenue and adjustments are made based on the actual outturns. In Switzerland, the use of earmarked funding was not sufficient to gain support politically for an increase to the country's carbon tax (Box 2).

Box 2. Increased use of tax expenditure in Switzerland

In Switzerland, the government has strengthened its use of policy instruments to make progress towards its 2030 targets under the Paris Agreement. The government deploys a combination of carbon pricing and subsidies to encourage climate mitigation responses across the economy. The mechanisms are linked in a budgetary context as the revenues from carbon tax are earmarked for climate mitigation expenditure. One-third of the carbon tax revenue is allocated to subsidies on energy efficiency, such as renovating buildings to improve energy efficiency, and investment contributions to clean energy projects. Increasing the rate and application of the Carbon Tax Act has resulted in a greater use of subsidies to support the government's policy objectives on climate change.

14. In relation to the budget approval stage, OECD countries are demonstrating a high degree of budget transparency by providing new forms of information on the composition of the budget relative to a government's climate change policies. The information also supports budget execution for budget monitoring and in-year reporting. Both France and Spain provide examples of reports that supplement the main reports in the annual budget. In Spain, the reporting maps to the Sustainable Development Goals and the country's obligations under the European Union Green Deal (Box 3).

Box 3. Green budget statements in Spain

In Spain, the Ministry of Finance and Civil Service collaborates with the Ministry for the Ecological Transition on climate change when preparing its green budgeting statement, referred to as the *Report on the Alignment of the General State Budget with the Ecological Transition*.

A feature of this work has been to link budget expenditure to environmental classifications from the European Union taxonomy for sustainable activities with targets from the Sustainable Development Goals. The purpose of the links is to help show the relevance of government programmes across both frameworks. Lessons from other countries classification of budget expenditure led the Ministry of Finance and Civil Service to exclude some expenditure, such as personnel related expenses, (e.g. salaries, wages and pensions), transfer payments, (e.g. unemployment benefits), interest on the public debt, and transfers to subnational governments. Excluding expenditure that was not directly relevant to climate change helped the Ministry to focus its efforts within its organisational resource constraints.

An annex to the government's 2023 Draft General State Budget provides an analysis of environmental-relevant expenditure by sector relative to environmental goals. The Ministry of Finance and Civil Service is planning to build on the material in the annex by extending the analysis to harmful expenditure and tax benefits. Further developments planned include involving public companies.

15. In both France and Spain, reporting climate-relevant initiatives in the budget has required a significant investment, but it has established a baseline position for the respective ministries of finance to better understand the composition of public expenditure. The initiatives have also helped to identify areas for further work, such as relevant impact

measures that can be used to report on the progress of implementation. The reporting has contributed to defining the next stage in each country's development of green budgeting practices.

16. On the final stage of the budget cycle, reporting and oversight, the material role performed by ministries of finance is from the preparation of the financial statements of the government. In this stage, the developments in the preceding stages contribute to the financial statements, for example the identification of climate related fiscal risks, informs the content of the disclosures in the financial notes that accompany the financial statements and earmarked funds inform the way in which revenues are reported. These developments are helping to inform the design of accounting standards for public sector financial reporting and disclosures on climate-relevant information.

2. Achieving impact beyond ministries of finance

17. Budgeting in government involves all ministries and agencies and requires a co-ordinated process that is led by the central budget authority. Mainstreaming climate and environmental considerations into budgeting has resulted in initiatives that are moving beyond the organisational responsibilities of central budget authorities and introduce cross-governmental arrangements.

18. The application of green budgeting is broadening as the understanding of how to tackle climate change and environmental challenges increases. Many OECD governments prepared climate mitigation strategies as a first initiative and then went on to prepare climate adaptation strategies. The additional strategies have helped to inform the range of priorities that governments are seeking to pursue. The implementation of the strategies and the preparation of new spending proposals can involve contributions from more than one ministry or agency and the number of inter-ministerial and inter-ministry committees on climate change is increasing to support the delivery of results across agencies.

19. In addition, three institutional developments on green budgeting are taking shape across OECD countries and demonstrate that green budgeting is moving beyond initiatives that were championed and piloted in ministries of finance to become an established part of the budget frameworks in a country:

- **Independent oversight:** Independent fiscal institutions are integrating climate considerations when preparing assessments on macro-fiscal forecasts, budget outlooks and fiscal risks.
- **Accounting standards:** The development of accounting standards for sustainability reporting in the public sector to inform the financial information and disclosures in the financial statements of government.
- **Statistical data:** Enhancements to the system of environmental economic accounting and specifically possible revision to the classification of the functions of government.

2.1. Increased use of inter-ministerial committees

20. Of the OECD countries that have adopted green budgeting, inter-ministerial and inter-ministry co-ordination on climate-related matters doubled in 2022 relative to 2021. The co-ordination was occurring between ministers, ministries and levels of government, and was greatest between government ministries and governmental agencies (Table 1).

Table 1. Cross-government co-ordination

Countries	An inter-ministerial group to co-ordinate across government	Inter-ministry/department co-ordination	Co-ordination across levels of government
Canada		●	
Denmark		●	
Finland		●	
France	●	●	
Greece	●		●
Ireland		●	
Korea	●	●	
Luxembourg		●	
Mexico	●		
New Zealand		●	
Norway		●	
Spain	●		
Sweden	●	●	
United Kingdom	●	●	●
Total	7	11	2

Source: OECD (2022), OECD Green Budgeting Survey

21. The co-ordination to deliver on policies and budget programmes that extend beyond the boundaries of one ministry as is the case for ministries of climate change and environment, shows the whole-of-government response that is required to support a transition to policy objectives on net-zero emissions. Examples include:

- **Korea:** In 2022, the government launched the “Consultative Group on the Greenhouse Gas Reduction-Sensitive Budget and Settlement of Accounts” with the Ministry of Economy and Finance, Ministry of Science and Technology, and Ministry of Environment. This is a senior body represented by directors-general from each ministry.
- **Mexico:** The Inter-Secretarial Commission on Climate Change (2005) and its working groups, and the Climate Finance Task Force are led by the Ministry of Finance and includes the heads of fourteen secretaries of State. The commission is responsible for co-ordinating climate change actions among the federal public administration.
- **New Zealand:** In 2022, an inter-ministerial Chief Executive Board for Climate Change has been established to provide oversight on the government’s responses to climate change. It will monitor and report on the delivery of the emissions reduction plan and national adaptation plan. The membership of the board includes the Secretary to the Treasury.
- **United Kingdom:** In 2021, the government established the Inter-ministerial Group for Net Zero, Energy and Climate Change to support engagement and collaboration between portfolio ministers. The Group includes representation from the United Kingdom, Northern Ireland, Scottish and Welsh governments.

2.2. Independent fiscal institutions

22. The addition of climate change considerations into the assessment of macro-fiscal projections and fiscal risks by independent fiscal institutions has increased the relevance of the core work performed by these institutions. Considering the potential impacts of climate change has not extended the mandate of these institutions, although it has had implications for the data and skill sets that are needed to assess macro-fiscal projections and fiscal risks (Cameron, S; Lelong, M; von Trapp, L, 2022^[6]).

23. The relevance of climate change for independent fiscal institutions complements the responsibilities held by climate change and environmental commissions in that the materials produced by independent fiscal institutions focus on budget and fiscal impacts of climate change and are additional to the information prepared by climate change commissions. Examples of where independent fiscal institutions have included climate change into the budget oversight responsibilities include Canada, Korea, Portugal, Spain and the United Kingdom. In Portugal, its initiatives include an *ex ante* assessment of the information and capacities that would be required to effectively integrate climate change considerations into its responsibilities (Box 4).

Box 4. Developing budget oversight on climate change in Portugal

The mandate for the Portuguese Public Finance Council (CFP) includes preparing an assessment of macro-economic scenarios based on budget projections and assessments of various other matters on budgeting and fiscal management, such as fiscal rules, and debt sustainability and tax expenditure. The CFP is also responsible for monitoring the execution of the budget.

In 2021, the CFP started to examine climate change issues in its fiscal and sustainability risks report. In 2022, it built on that work with further publications and a conference on green budgeting in conjunction with the University of Evora. The publications considered the green dimension of fiscal policy, macro-fiscal risks, and approaches to green budgeting.

In 2021 Portugal enacted a climate law, which established a Climate Action Council as an independent body on climate change policy (although not yet implemented). The Ministry of Finance also introduced requirements for public entities to identify climate action initiatives in the 2023 state budget.

The CFP's initial work from 2021 and 2022 has been supplemented by efforts to better understand the potential implications for the way in which climate change considerations can be incorporated into the CFP's assessments under its existing mandate as a result of the new legislation, advisory bodies and budget process reforms. The work has enabled the CFP to put forward a possible roadmap to introduce green budgeting within the Portuguese budget process.

2.3. Public sector accounting standards

24. The public sector reports extensively on the implementation and performance of public policies, however in the areas of sustainability reporting and climate-related disclosures in financial statements, in the absence of public sector-specific guidance practices are at an early stage of development relative to the private sector. In 2022, a consultation process by the International Public Sector Accounting Standards Board

proposed that specific guidance for the public sector was needed and that IPSASB should develop this drawing on relevant private sector guidance. Following positive feedback, the IPSASB is now researching the development of public sector-specific guidance on climate-related disclosures and natural resources. The Board has also released additional guidance on applying its recommended practice guidelines on the long-term sustainability of an entity's finances, and on reporting service performance information to sustainability reporting.

25. Over a similar period, the International Sustainability Standards Board prepared two standards that establish baseline requirements for sustainability disclosures in capital markets. In 2022, the International Sustainability Standards Board published an Exposure Draft on General Requirements for Disclosure of Sustainability-related Financial Information, which set out the requirements for an entity to disclose financial information about its sustainability-related risks and opportunities. The International Sustainability Standards Board also proposed that an entity provide sustainability-related financial disclosures. The implementation of the standards is likely to be phased over a 12-month period to provide temporary relief to companies that cannot meet the full requirements from the effective implementation date of 1 January 2024.

26. The scope and design of the guidance by the International Sustainability Standards Board is likely to inform the development of accounting standards for the public sector. A co-ordinated approach on the development of standards is encouraging given the issuance of sovereign green bonds and for governments to meet the guidance requirements for capital markets. To the extent possible, a harmonised approach is likely to assist in the preparation of climate-related disclosures and sustainability reporting across the various financial statement reports that are prepared by government. However, the scope of information is still likely to be broad and take time to establish, as illustrated by the 2022 guidance issued by the International Sustainability Standards Board (Box 5).

Box 5. Proposed climate-related disclosures in the private sector

In 2022, the International Sustainability Standard Board released an exposure draft of its proposed requirements for climate related disclosures for private sector entities. The scope of the requirements help to inform the requirements that may be developed in guidance materials for the public sector.

Under the proposed guidance, a private sector entity would need to provide information that enabled the users of general purpose financial reports to understand four elements of climate-related disclosure: governance, strategy, risk management, and metrics and targets. The information is to be prepared alongside the requirements for sustainability-related financial information.

- **Governance:** The processes, controls and procedures an entity uses to monitor and manage climate-related risks and opportunities.
- **Strategy:** The climate-related risks and opportunities that could enhance, threaten or change an entity's business model and strategy over the short, medium and long term, including:
 - whether and how information about climate-related risks and opportunities inform management's strategy and decision making

- the current and the anticipated effects of climate-related risks and opportunities on its business model
- the effects of climate-related risks and opportunities that could reasonably be expected to affect the entity's business model, strategy and cash flows, its access to finance and its cost of capital, over the short, medium or long term
- the resilience of its strategy (including its business model) to climate-related risks.
- **Risk management:** How climate-related risks and opportunities are identified, assessed, managed and mitigated by an entity.
- **Metrics and targets:** The metrics and targets used to manage and monitor an entity's performance in relation to climate-related risks and opportunities, including performance and outcome measures, and targets that an entity uses to measure its performance goals related to significant climate-related risks and opportunities.

Source: (International Financial Reporting Standards, 2022^[7])

2.4. Statistical data

27. In 1999, the OECD developed the Classification of the Functions of Government (COFOG) which classifies government expenditure data for the Government Finance Statistics and the System of National Accounts by the purpose of the expenditure. The classification system organises expenditure data into ten functional groups, and is supported by a further categorisation of subgroups. The functional groups of data are available for 32 OECD countries and the sub-groups of data are available for 26 OECD European countries plus Israel and Japan. Over time, the number of OECD countries that provide COFOG data has steadily increased, and efforts are underway to reach agreement with the remaining countries on the submission of these data to the OECD (OECD, 2021^[8]).

28. Within COFOG is a functional classification for environmental protection which contains six subgroups (waste management, waste-water management, pollution abatement, protection of biodiversity and landscape, research and development environmental protection, and environmental protection that is not otherwise classified). In 2020, the subgroups identified expenditure of around 0.6% of GDP on average for general government public expenditure on environmental protection. However, the classification is insufficiently broad to cover expenditure that is relevant to climate change and environmental expenditure that is beyond environmental protection. Although the classifications were not designed with that purpose in mind, the shortcomings have led to calls to revise COFOG.

29. The OECD is preparing materials for a consultation on a revised framework for COFOG which would likely be conducted in 2023-24. Proposals by the United Nations Committee of Experts on Environmental-Economic Accounting support a revision to the structure of COFOG, including to increase the specification on the types of environmental expenditure, and to consider the secondary purpose(s) of environmental expenditure (United Nations, 2022^[9]). Whether all the proposals are possible are matters the OECD will consider following the consultation process. Regardless of the final form of the revised COFOG, the initiative contributes to broadening the policy scope and standardising the classification of government expenditure for statistical purposes. In doing so, it also

contributes to filling gaps in the system of national accounts in recognising natural assets. These reforms are broadening the climate-relevant information that can inform budget appraisals and reporting within a country and on a cross-country basis.

3. Advancing green budgeting

30. OECD countries that have adopted green budgeting are looking to maximise the impact of the analyses and information in budgetary decision-making processes. The pursuit to identify relevant information has led some countries to build on their initial efforts and to identify reforms that may offer greater insights. The 2022 OECD Green Budgeting Survey showed that this process of development, review and further development is evident in three areas:

- Developing macro-fiscal models that identify and account for structural changes in economies that may occur in response to climate change policies.
- Adapting and responding to fiscal risk assessments in relation to extreme weather events and the implementation of climate change policies.
- Enhancing the monitoring and impact reporting functions that already apply across government.

3.1. Modelling

31. An increasing number of OECD countries are developing models on the potential impacts of climate mitigation policies and are considering the economic and fiscal implications of the findings. The developments have been led by Denmark with its GreenREFORM initiative, which was funded by the Ministry of Finance in conjunction with a multi-party research project with the universities of Aarhus and Copenhagen. The project was conducted through working groups to develop sub-models and integrating them into a general equilibrium model. The working groups covered such topics as the abatement of emissions, agriculture energy supply, transportation, and waste management and circular economy. Other countries commencing modelling initiatives include Czech Republic, Netherlands, Norway, Switzerland, United Kingdom and United States.

32. The modelling considers macro-fiscal implications over a medium-term perspective. By doing so, the modelling can draw on medium-term policy settings from climate mitigation and adaptation strategies, and milestones from Nationally Determined Contributions and related instruments, such as carbon budgets. The information on policy settings that can inform the parameters for modelling is widely in place across OECD countries. All OECD countries have set climate targets and prepared climate mitigation strategies and submitted Nationally Determined Contributions. For most OECD countries the targets are to have net-zero emissions by 2050. Although some countries have earlier dates 2035 (Finland), 2040 (Austria and Iceland), and 2045 (Germany and Sweden).

33. The climate change models that are relevant to macro-fiscal considerations take a variety of forms as shown in Table 2. The choice of model depends on its purposes, the existing modelling environment, and the available expertise. The examples of *ex ante* (pre implementation) and *ex post* (post implementation) models in Table 2 can apply to more than one category of model. Partial equilibrium models focus on individual sectors, e.g. energy, and assume that conditions in the rest of the economy remain unchanged. As such, the models do not capture second round effects, such as the potential effects on income distribution. In comparison, general equilibrium models provide analytical results over

several sectors and capture the interactions between sectors such as changes to the demand function, and substitution effects across inputs. The *ex post* models, such as regression analysis, can complement *ex ante* models by evaluating the validity and accuracy of the assumptions in *ex ante* models. *Ex post* models can also be used to calculate elasticities to estimate changes in demand. Approaches, such as regression analysis can be conducted on a country specific, or a cross-country basis. Other modelling approaches are also available, such as dynamic stochastic general equilibrium models and integrated assessment models (Pisu et al., 2023^[10]).

Table 2. General approaches to modelling climate change

Modelling approaches			Examples
<i>Ex ante</i>	Partial equilibrium	Cross-country	International Energy Agency's Global Energy and Climate Model, prepares emissions projections and is used for scenario analysis on emission reduction paths.
		Country-specific	In the Netherlands, the Environmental Assessment Agency operates its National Energy Exploration Calculation System which connects sectoral models and prepares projections on energy use and estimates the impact on emissions.
	General equilibrium	Computable General Equilibrium (CGE)	In Denmark, the GreenREFORM model is a dynamic CGE model. It can estimate the effect on emissions from environmental taxes, subsidies and regulations. It comprises 59 sectors and 27 energy products, and can produce forecasts on annual intervals to 2100.
<i>Ex post</i>		Cross-country	OECD Environmental Policy Stringency Indicator can be used to inform policy development by considering the effects of the stringency of environmental policies on carbon emissions (Kruse et al., 2022 ^[11]).
		Country-specific	In France, regression analyses using micro-level data showed that the increase in the carbon tax from 2014-2018 reduced carbon emissions by 5% relative to no tax counterfactual (Dussaux, 2020 ^[12]).

Source: (Pisu et al., 2023^[10])

34. The modelling is contributing to insights on the implications of structural reform from climate change policies, for instance the labour market and educational implications for the number of trades people and apprenticeships that will be needed to install energy efficient heating in buildings within the proposed timelines in countries. The OECD has developed resources to help inform modelling and policy design through the climate actions and policies measurement framework (Box 6).

Box 6. OECD Climate Actions and Policies Measurement Framework

In 2022, the OECD published a working paper on its development of a structured database on climate mitigation to monitor countries' climate actions. The database, referred to as the climate actions and policies measurement framework (CAPMF) contains 128 policy variables, grouped into 56 policy instruments, and covering 52 countries over the period 2000-2020. The CAPMF is one of the resources the OECD has developed under its International Programme for Action on Climate (IPAC).

The OECD's analysis of the data indicate that these countries strengthened their climate action between 2000 and 2020 in terms of policy adoption and policy stringency, although individual countries progressed at different paces. General findings indicate that in many countries the mix of policy interventions changed from cross-sectoral to a sectoral focus, and from non-market to market-based approaches. Importantly, results suggest a positive relationship between stronger climate action and greater emissions reductions but analyses on this point are ongoing to better assess policy effectiveness.

Although the database is comprehensive and the data is harmonised across countries to support the analysis, the CAPMF does not contain all climate policies because of constraints on the availability of data. In this regard, it is a starting point on which the OECD plans to build upon through the synergies created by the Inclusive Forum on Carbon Mitigation which was also established in 2022.

Source: (OECD, 2022^[13])

3.2. Fiscal risk assessment

35. In 2020, the OECD Paris Collaborative on Green Budgeting worked with the Swiss Finance Administration on a project relating to climate change and long-term fiscal sustainability to draw attention to the uncertainties that surround the quantification of fiscal impacts from climate change. The resulting publication provided several examples of how fiscal impacts could be integrated into official fiscal reports (Baur, M. et al., 2021^[14]).

36. Since then, OECD countries have enhanced information on fiscal risk assessments in budget reports to recognise the fiscal risks posed by climate change on such things as macro-fiscal forecasts of revenue from carbon tax and environmental trading schemes, and public expenditure from the cost pressures to governments from these imposts. There is increased reporting on the fiscal risks to budget settings from policy targets to reach net-zero emissions, including reporting through scenarios analyses.

37. In the United Kingdom, the Office of Budget Responsibility assesses and reports on fiscal risks. In 2021, its Fiscal Risks Report included a chapter on the fiscal risks from climate change and examined the possible budgetary implications of the government's net-zero strategy. The report built on the Office's climate-related scenario analysis in 2019 and by 2022, climate change had become an integrated part of the Office's assessment of fiscal risk and sat alongside other fiscal risks brought about an ageing population and higher energy prices (Office of Budget Responsibility, 2022^[15]).

38. In the case of the United States, in March 2023, the Council of Economic Advisers and the Office of Budget and Management released a white paper on methodologies and considerations for integrating risks and opportunities in macroeconomic forecasting and modelling for the President's Budget (Council of Economic Advisers and Office of

Management and Budget, 2023^[16]). The developments in identifying, assessing and modelling the fiscal risks from climate change is adding to the information available to prepare advice to governments on budgets and fiscal sustainability (Box 7).

Box 7. Quantifying the fiscal risks of climate change in the United States

The United States has considered the relevance of climate risks in the Long-Term Budget Outlook for the 2024 fiscal year and is looking to integrate climate risks into budget forecasts. The outlook covers a 25-year period and includes estimates of the budget deficit and the public debt. The outlook informs the 10-year economic assumptions in the President’s Budget.

The work involves contributions by the Council of Economic Advisers, Office of Management and Budget, and the Department of the Treasury on the way in which a green transition may impact macroeconomic outcomes, and the modelling that will be required to identify and quantify the effects of the fiscal risks.

In 2022, Executive Order 14030 initiated work across the federal government to quantify, disclose and mitigate climate-related financial risk. Part of the scope of the work recognises that climate risk have implications for the government’s future fiscal position.

“Identify the primate sources of federal climate related risk exposure and develop methodologies to quantify climate risk within the economic assumptions and long-term budget projections of the President’s Budget”

The scope of analysis is to consider physical risks from the destruction of property from extreme weather events, and budgetary and fiscal risks from the transition to a net-zero carbon economy. The climate risks are relevant to the government’s macro-fiscal position because of changes to the government’s revenue and spending patterns, and macro-fiscal assumptions are directly relevant to budget parameters. The analysis will include scenarios for GDP e.g. under a high emission/high warming scenario to help inform a range of estimates on possible damage from physical risk.

Source: (Council of Economic Advisers and Office of Management and Budget, 2023^[16])

3.3. Monitoring and impact reporting

39. The development of appraisal methods and tools to better assess the climate and environmental considerations of new spending proposals is increasing across OECD countries. In 2022, 75% of OECD countries that had adopted green budgeting were using environmental impact assessments and related tools to help inform budget prioritisation decisions. In many instances, existing tools such as cost-benefit analyses have been adapted to include features such as the shadow cost of carbon.

40. The appraisal methods and tools have informed the performance measures that could support the implementation of climate-relevant initiatives, for instance the energy use intensity of buildings, as is the case in Ireland. The developments show how such metrics can supplement the performance measurement that line ministries are already undertaking when reporting on the execution of the budget.

41. In the transport sector 68% of OECD countries are using environmental impact assessments to inform the prioritisation and selection of capital expenditure projects.

Specialist tools are emerging, including the measurement of carbon footprints, carbon offset estimates, and adding climate considerations to asset lifecycle analysis. Integration of climate considerations into budgetary assessment tools includes counterfactuals on the cost of inaction.

42. The rapid growth in the issuance of sovereign green bonds has brought with it obligations to report on the use of the funds. While countries with large sovereign green bond programmes have established units within debt management offices to prepare and co-ordinate the impact reporting, as is the case in France, other countries with smaller programmes are assessing the merits of using the existing accountability frameworks on monitoring and reporting, and adding climate-relevant impact measures as is the case in Austria and Ireland.

Conclusions

43. The OECD Secretariat found convincing evidence that central budget authorities are mainstreaming climate change considerations into all stages of the budget cycle. The 2022 OECD Green Budgeting Survey shows that two thirds of OECD countries have adopted green budgeting, and consultations with OECD countries indicate that the number has increased further since the time of the survey. The majority of examples of mainstreaming are at the start of the budget cycle, namely during budget planning and budget preparation. Less developed stages in the budget cycle refer to financial reporting where accounting standards for the public sector are in the early phases of design and consultation. Improvements to financial reporting and accounting standards in the public sector are likely to make an important contribution to the governing green pillar under the OECD Reinforcing Democracy Initiative.

44. The work of the OECD Paris Collaborative on Green Budgeting recognises that there is no single way or starting point to adopt green budgeting. The observation is based on the experiences of OECD countries and recognition that budget practices vary across countries, which in turn necessitates bespoke approaches when embedding new features, such as climate-relevant considerations, into existing frameworks.

45. An indication of the significant progress that OECD countries have achieved in green budgeting is evident from green budgeting moving beyond ministries of finance to include other ministries and bodies in government, specifically ministries of climate change and environment, and independent fiscal institutions. The initiatives by standards setters on the disclosure of financial information and statistical data provides further evidence of green budget initiatives stabilising to become an established part of the budgeting landscape.

46. The progress achieved from integrating climate and environmental considerations into budgeting has increased awareness of the areas where the impact of green budgeting in decision making could be improved. The identification of areas for further work has also been informed by the challenges that ministries of finance experience when implementing green budgeting. These challenges include being able to generate relevant data, design impact indicators, and access to subject-matter expertise. Areas where green budgeting is advancing to more impactful practices relate to modelling the impacts of climate policies to inform the actions that governments may need to take to realise policy objectives, increasing the understanding of potential fiscal risks from climate change, and improving the real-time reporting of climate-relevant initiatives.

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