The Prospects of Green Budgeting in China

Overview
Acknowledgement

This Overview summarizes the key findings from a two-year study on the prospects of green budgeting in China. For detailed information, please download the full report in Chinese.

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As extreme weather events, productivity losses and resource scarcity intensify, countries face increasing threats to their economies, security, and the well-being of their citizens, pushing governments to become more aware of the urgency to address environmental issues. Yet, the lingering economic fallout of the pandemic has placed great fiscal pressures on nations, as they grapple with the urgent tasks of driving the low carbon transition, boosting green development, and securing a more resilient future.

In this context, allocating public funds more efficiently is crucial, to maximise the sustainable development impact of government spending and leverage private finance for green and nature-positive investments.

To better align public funds with green national priorities, a series of initiatives have been proposed. The Organisation for Economic Co-operation and Development (OECD) introduced a green budgeting framework in 2018, covering four building blocks (Figure 1). Other international organisations, including the United Nations (UN) and the International Monetary Fund (IMF), have also actively advocated for policy toolkits of green budgeting through various platforms.

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While China has yet to establish a comprehensive institutional framework for green budgeting, some key green elements are scattered across China’s fiscal policies, covering government expenditure, tax, public procurement, as well as national funds and bonds.

To help greening China’s budgeting system through a systemic approach, this report examines international experiences, comparing it with China’s approach (Section II). It analyses the feasibility for China to implement green budgeting (Section III) and puts forward suggestions for how to do so (Section V). This is critical given the expected financial requirements to successfully transition the country to an inclusive, low-carbon development model. According to estimates from the Green Finance Committee of the China Society of Banking and Finance, China’s investment requirements in the green and low-carbon sector from 2021 to 2050 will total 66.79 trillion USD\(^2\). This implies an annual investment of around 12% of GDP\(^4\) in this sector over the next 30 years. To meet this substantial financial need, it’s crucial for public finance to be allocated as efficiently as possible, while leveraging private finance in key areas such as renewable energy, energy efficiency, clean transportation, carbon sinks, construction and manufacturing, the low-carbon transition, etc.

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\(^2\) The numbers are converted from CNY to USD with UN operational rate of exchange effective on 15 November 2023 (US$1 to CNY 7.291).

\(^3\) Ma Jun (2023), ‘Domestic green and low-carbon investment demand reaches $487 trillion in the next 30 years’, https://www.sohu.com/a/643305758_120109837 Access date: 14/11/2023

\(^4\) The 12% of GDP corresponds to approximately USD 2.19 trillion, based on the GDP figures of 2023, according to the Chinese National Statistic Bureau, https://www.stats.gov.cn/sj/zxfb/202401/t20240118_1946691.html
Despite being in its early stages of development, green budgeting as a fiscal management tool is gaining momentum among countries, particularly advanced economies. By the end of 2022, 24 out of the 38 OECD countries reported practicing green budgeting\(^5\).

While implementation of green budgeting may vary due to differences in legal foundations, governance mechanisms and country-specific priorities, our analysis has identified two predominant approaches:

1). **Green budget tagging approach**

This approach, though with varying methodologies, typically involves classifying budget items into different categories based on their potential environmental impact, as demonstrated in Figure 2.

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France, Italy and a few other western European countries have adopted this approach. Among them, Italy is the earliest. It started exploring green budget tagging around the year 2000, and later integrated it into the “Government Accounting and Public Finance Act (Law 196/2009)” in 2009. A comprehensive guide to implement green budget tagging was released in 2011, equipping public administrations with definitions, classifications, and guidelines to define the level of “greenness” of specific budgetary items.7

Built on the green tagging practice, the Italian Government has developed a specialized green budget sheet in conjunction with its general national budget sheet. As shown in Figure 3, The Italian Ministry of Economy and Finance oversees the country’s green budget with the participation of all line ministries. The Parliament discusses, votes on and approves the national budget and final accounts. An audit authority is in place to monitor budget execution and review the final accounts. The outcomes of this evaluation are shared publicly in two annual reports: the “Eco-budget” (or “Ecobilancio” in Italian) and the “Eco-report” (known as “Ecorendiconto” in Italian).8

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2). Green performance tracking approach

In contrast to green budget tagging, the green performance tracking approach does not focus on calculating the amount or proportion of government expenditure/income that is considered green, nor what is potentially detrimental to the environment. It also doesn’t create a standalone green budget sheet. Instead, the emphasis is on maximizing environmental considerations in each stage of the existing general budget cycle, through an environmental performance tracking and evaluation mechanism.

Sweden and several other Nordic countries exemplify this approach. As depicted in Figure 4, Sweden incorporates environmental performance evaluation throughout the entire decision-making and budgetary cycle, implementing appropriate interventions at each budget stage to manage overall performance. Sweden’s Budget Act (2011:203) and Climate Act (2017:720) form the primary legal basis for green budgeting. Guided by environmental objectives, including the Generational Goal⁹, Sweden’s Ministry of Finance leads green performance tracking procedures with close participation of the Ministry of Environment. Annual environmental and climate assessment reports are published in the Swedish government’s financial statements. Sweden’s Climate Policy Council independently assesses how aligned government policies and budget bills are with their 2045 net-zero targets. These assessments are crucial in the approval process for budget bills in Sweden.

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⁹ Naturvardsverket (2023), https://www.naturvardsverket.se/, Access Date: 14/11/2023
3). Applicability of different approaches

Each of these two approaches has its merits and disadvantages (see Figure 5 for a comparison of these approaches), and their applicability depends on a country’s institutional arrangements.

Figure 5: Comparison between green budget tagging and green performance tracking approaches

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Disadvantages</th>
<th>Applicability</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Green budget tagging</strong></td>
<td>Quantitative-focused — high granularity; strong comparability</td>
<td>Complicated; requires a lot of communication</td>
<td>Strong coordination across budget authorities and line ministries; sufficient resources (e.g. time and staff)</td>
</tr>
<tr>
<td><strong>Green performance tracking</strong></td>
<td>Quantitative and qualitative combined – goal-oriented, highly-flexible</td>
<td>High requirement towards the performance management capability</td>
<td>Adequate modern budgetary government framework; strong coordination across budget authorities and line ministries; high requirement towards the performance management capability</td>
</tr>
</tbody>
</table>

Source: Conceptualised and compiled by IIGF
The “green budget tagging” approach excels in conducting quantitative evaluations of the degree of ‘greenness’ in each budget. However, its technical complexity entails substantial communication costs between the central budgetary authority and relevant departments, often requiring training sessions. Therefore, this approach is better suited to countries with strong quantitative assessment capabilities, sufficient personnel and adequate resources within their budgetary and administrative departments.

In contrast, the “green performance tracking” approach combines both quantitative and qualitative analyses, with a stronger focus on evaluating environmental impact, rather than precise budgetary estimations. This requires countries to have strong capacities and robust methodologies in setting performance indicators, to accurately measure progress towards final environmental targets.

It’s important to emphasize that these approaches are not one-size-fits-all solutions. Countries should customize their approaches to align with their specific context and needs. In certain cases, governments may find it beneficial to adopt a combined approach, incorporating elements from both the green budget tagging approach and the green performance tracking approach. This flexibility allows nations to create a green budgeting framework that best suits their unique circumstances and institutional arrangements.
In general, green budgeting in China is still in its nascent stage, with “green elements” scattered throughout various budget-related fiscal policies, including general public expenditure, tax, government investment and sovereign debt. For instance, in 2022, there were eight tax policies (Figure 6) that supported green development either directly or indirectly, contributing to 14 percent of overall national tax income, totalling 315.5 billion USD.10 In 2020, the Ministry of Finance, Ministry of Ecology and Environment, along with Shanghai Municipality, jointly established the first national green development fund, with the first phase of investment totalling 12.14 billion USD.11 Several provincial governments, including Inner Mongolia, Yunnan, Hebei, and Hubei, have established local green funds as well. These initiatives reflect China’s growing commitment to integrating green elements within its fiscal policies and are essential enablers to China potentially applying green budgeting.

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Moving forward, as demonstrated by international experiences, successfully implementing green budgeting requires a mature national budget management system, encompassing transparency, monitoring, evaluation and coordination among various government departments.

China has embarked on comprehensive budgeting reforms in recent decades to strengthen its budget formulation, implementation, monitoring, and performance-based budget management processes. These include:

1. **At the budget formulation stage**, reforms have been taken to overhaul the fragmented budget management among line ministries and local governments, while ensuring unified, coherent planning of fiscal revenue and expenditure at the central government level. Moreover, reforms to the short-term budget cycle have been initiated by the government since 2015 to align long and short-term green development goals.

2. **In the budget implementation stage**, China has initiated reforms in the public procurement system, starting in 2000 when it established a dedicated treasury department under the Ministry of Finance. This centralization of public budget management aimed to address issues caused by the proliferation of distributed public finance accounts, reducing miscalculations.

3. **At the budget monitoring stage**, China updated its Budgeting Law in 2015 to reinforce transparency and reporting requirements, providing detailed guidance on reporting different aspects of budget items, including objectives, timelines, scope, responsible entities and more.

4. **Throughout the entire budgeting cycle**, China has undertaken performance-based budget management pilots and reforms since 2000 to ensure budgeting effectiveness and efficiency. In 2022, the Ministry of Finance released the Opinion of Fiscal Policies in Support of the Carbon Peak and Carbon Neutrality Goals, emphasizing the need to incentivize performance and outcome-based climate budgeting.

Given this context, our report makes a comparison between China’s existing budgeting system and relevant fiscal policies with those of Italy and Sweden, to assess the feasibility of China adopting green budgeting.

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1) Comparison between China and Italy in green finance enabling factors

Compared to Italy, China has yet to develop methodologies that adequately define what qualifies as “green” in its budgetary items. There is also a lack of dedicated legal and policy frameworks for the green tagging process. Additionally, China lacks practical experience in quantifying calculations related to green expenditure and income, as well as structured green budgeting disclosure approaches, like the Italian Eco-report.

Table 1: Comparison between Italy and China in green budgeting enabling factors

<table>
<thead>
<tr>
<th></th>
<th>Italy</th>
<th>China</th>
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</thead>
<tbody>
<tr>
<td><strong>Target Guidelines</strong></td>
<td>The European Green Deal and other treaties, agreements and targets.</td>
<td>The Strategy of Constructing Ecological civilisation, the “dual carbon goals”, etc.</td>
</tr>
<tr>
<td><strong>Legal basis</strong></td>
<td>The Accounting and Public Finance Act 196/2009.</td>
<td>Budgeting Law, Environmental Protection Law, etc.</td>
</tr>
<tr>
<td><strong>Methodology</strong></td>
<td>The Italian government provides a green-tagging methodology for all budgeting items, as well as practical guidelines for line ministries.</td>
<td>No standardized methodology for budget tagging.</td>
</tr>
<tr>
<td><strong>Evaluation Standards</strong></td>
<td>CEPA-CReMA classifications.</td>
<td>No existing standards. Future development of the standards can potentially take reference from the Green Industry Guiding Catalogue.</td>
</tr>
<tr>
<td><strong>Implementation Process</strong></td>
<td>Italian Ministry of Economy and Finance reviews, compiles and completes the green tagging and quantification with assistance from line ministries.</td>
<td>Relatively scattered across different fiscal policies.</td>
</tr>
<tr>
<td></td>
<td>According to the calculation formula, the total expenditure of green budgeting and the expenditure of each sub-category are obtained.</td>
<td></td>
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<tr>
<td></td>
<td>The Ministry of Economy and Finance estimates the green expenditure for the fiscal year according to the expenditure plan and budgetary items, with reference to the eco-report of the previous year.</td>
<td></td>
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<tr>
<td></td>
<td>Continuous oversight by the legislative and audit departments.</td>
<td></td>
</tr>
<tr>
<td><strong>Core Outputs of Green Budgeting</strong></td>
<td>The eco-report is part of the budget implementation report.</td>
<td>No clear requirement for independent consolidated disclosure.</td>
</tr>
<tr>
<td></td>
<td>The eco-budget is an annex to the draft budget.</td>
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</table>

Source: Conceptualised and compiled by IIGF
2). Comparison between China and Sweden in green budgeting enabling factors

In comparison with Sweden, we depicted the following differences. Sweden has established a robust legal framework for green budgeting, by updating national laws to incorporate green budgeting requirements. Although China’s Budgeting Law and Environmental Protection Law indicate the government’s responsibility for environmental protection through budgeting, the country has not yet integrated green targets and evaluation mechanisms into essential budgeting processes such as planning, approval and information disclosure. Furthermore, China has included some environmental performance indicators in its guidelines for budget performance evaluation and supervision, but these cover only very few budgetary items and there are limitations to adapt them to a broader range. Further refinements and standardizations are needed to enhance performance evaluation across all budgetary expenditure areas.

Table 2. Comparison between Sweden and China in green budgeting enabling factors

<table>
<thead>
<tr>
<th></th>
<th>Sweden</th>
<th>China</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Target Guidelines</strong></td>
<td>The generational goal and 2045 carbon neutral goals, etc.</td>
<td>The Strategy of Constructing Ecological civilisation, the “dual carbon goals”, etc.</td>
</tr>
<tr>
<td><strong>Legal basis</strong></td>
<td>Budgeting Law, Climate Law, etc.</td>
<td>Budgeting Law, Environmental Protection Law, etc.</td>
</tr>
<tr>
<td><strong>Methodology</strong></td>
<td>Instead of separate steps such as tagging, environmental considerations are integrated into the entire budgeting process in accordance with legal requirements. The Ministry of Finance leads the green budgeting process, while the Ministry of Environment coordinates it, and other government agencies are involved in a noticeable way.</td>
<td>Reform of the whole-process performance-based budget management is advancing steadily, and a performance evaluation indicator system, along with its operational methodology, has been preliminarily established. However, green budgeting has yet to be defined and implemented in a systemic approach.</td>
</tr>
<tr>
<td><strong>Evaluation Standards</strong></td>
<td>A system of environmental and climatic performance indicators exists, based on sixteen environmental quality objectives.</td>
<td>No evaluation standards exist. Future development of these can potentially take reference from the Green Industry Guiding Catalogue.</td>
</tr>
<tr>
<td>Sweden</td>
<td>China</td>
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<tr>
<td><strong>Implementation Process</strong></td>
<td></td>
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<tr>
<td>The Ministry of Finance negotiates budgeting proposals with line ministries.</td>
<td>With the participation of finance departments, the ecological and other line departments, the audit departments and the People’s Congress, green-development content is incorporated into various reforms; however, it is relatively scattered across fiscal policies.</td>
<td></td>
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<tr>
<td>Line ministries mark relevant budgetary items that would impact the environment.</td>
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<tr>
<td>The Ministry of Environment coordinates and assists various departments in completing the preliminary environmental impact assessment of specific items.</td>
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<tr>
<td>Parliament discusses, votes, and approves the budget bill based on the budget draft, along with the ex-ante environmental assessment report.</td>
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<tr>
<td>The Climate Policy Council provides an independent annual assessment on whether the budgeting bill contributes towards achieving Sweden’s climate and environmental objectives.</td>
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</tr>
<tr>
<td>Oversight by the legislative and audit authorities is continuous.</td>
<td></td>
<td></td>
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<tr>
<td><strong>Core Outputs of Green Budgeting</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The Ministry of Finance publishes an annual budget implementation report, including the annual comprehensive environmental and climate assessment report assisted by the Ministry of Environment, and discloses the performance of fiscal and tax spending on 16 environmental quality objectives.</td>
<td>No clear requirement for independent consolidated disclosure exists.</td>
<td></td>
</tr>
</tbody>
</table>

Source: Conceptualised and compiled by IIGF
China shows ambition and progress in using fiscal policies to advance some of its key national priorities, including its dual carbon goals, and in reforming its budgeting system to enhance transparency, coherence, monitoring and evaluation. It is thus feasible, in our opinion, for China to apply green budgeting to maximize public finance efficiency in supporting green development goals and leveraging private capital for its environmental agendas.

By examining international experiences in green budgeting, we suggest that China can draw inspiration from both the “green budget tagging” and “green performance tracking” approaches of Italy and Sweden, respectively, tailoring them to its national development context and priorities.

In conclusion, we offer a few policy suggestions for policymakers and stakeholders to take into consideration.

1). Calibrate the role of green budgeting

Given the diversity of institutional arrangements across countries, the role and objectives of green budgeting can vary. Before embarking on green budgeting initiatives, China should align the role of green budgeting within the context of national economic development, overall fiscal objectives, ecological civilization construction and its dual carbon goals. This involves determining how green budgeting fits into the current fiscal system and what it aims to achieve in terms of greening the overall fiscal policy framework.

2). Define “green” for budgetary objectives

Determining whether budgetary objectives have potential environmental impact is a fundamental part of implementing green budgeting. Different countries use different methods here. For instance, Italy applies the Classification of Environmental Protection Activities and Expenditure (CEPA) and
Classification of Resource Management Activities (CReMA)14 to tag green budget items. France employs the EU Taxonomy to define six environmental objectives15 in its green budgeting practice, while Sweden utilizes its system of environmental objectives16 to evaluate the potential environmental impact of budgetary items.

Currently, China lacks a clear definition of what constitutes “green” in its budgetary objectives. However, existing green definitions for industry development (Green Industry Catalogue) and financial markets (Green Bond Endorsed Project Catalogue) could be relevant. Instead of developing a new framework from scratch, policymakers could explore adapting these existing definitions to green budgeting.

3). Clarify the scope of application

To ensure a holistic approach, we recommend applying green budgeting to both fiscal revenue and expenditure at all stages of the budgeting process, including ex-ante, implementation and ex-post stages. This should extend to annual, along with multi-year budgeting.

1. **Ex-ante analysis stage:** Establishing overall green budgeting objectives, assessing anticipated impact, efficiency and risks, as well as publishing guidelines for budget proposal drafting.

2. **Implementation stage:** Enhancing cooperation between finance authorities, environmental protection authorities, auditing authorities and line ministries to track budget implementation and assess the environmental impact.

3. **Ex-post evaluation stage:** Assessing budget implementation outcomes in a timely manner, providing regular reporting for improved evaluation accuracy, and creating a feedback loop to enhance the green budgeting mechanism.

4). Enhance the legislative foundation for green budgeting

Clear legislative frameworks are essential to successfully implement green budgeting. While China’s “Budget Law” and “Environmental Protection Law” contain general provisions encouraging integration of environmental considerations into the budget process, they lack the necessary clarity and granularity to serve as the legal basis for green budgeting. We recommend that China further leverages the role of legislation in advancing green budgeting, by requiring the setup of green budgeting goals, green budgeting indicators, disclosure procedures, along with monitoring and evaluation mechanisms, through legislative measures.

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14 Classification of Environmental Protection Activities and Expenditure (CEPA) and Classification of Resource Management Activities (CReMA) - Explanatory notes, https://seea.un.org/content/classification-environmental-protection-activities-and-expenditure-cepa-and-classification Access date: 15/11/2023

15 Climate change mitigation, climate change adaptation, water resources management, circular economy, waste, pollution abatement, biodiversity and sustainable land use.

5). Enhance green budgeting methodology through a pilot-approach

China currently faces significant gaps in green budgeting methodologies, particularly in environmental indicators and conducting environmental impact assessments. Although the government has provided some guidance for ecological performance indicator setting, these are limited in scope, mostly focusing on specialized government transfers, which constitute a very small portion of budgeting items and are used primarily for internal government self-evaluation. Building on China’s experience with pilot programs aimed at establishing a green financial system, we recommend a pilot-approach to address these methodological gaps. This should also emphasize improving task distribution among different responsible entities and enhancing coordination between various authorities, line ministries, and sub-national governments.
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