



# Next Generation Budgets

Transforming State and Regional  
Budgets for Net Zero

---

**Policy  
Report**

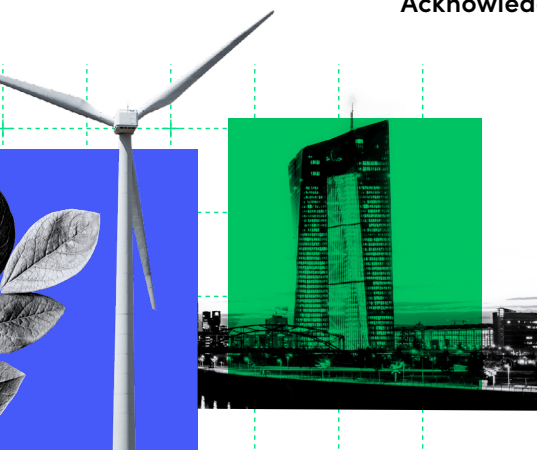
Under2 Coalition

September 2025

**Authors:** Virginia Bagnoli, Jessica Cook

# Contents

<b>Executive summary</b> .....	<b>03</b>
<b>01 Mainstreaming climate in state and regional budgets: unlocking the power of green budgeting</b> .....	<b>07</b>
1.1 What is green budgeting? .....	08
1.2 Why subnational governments should implement a green budget .....	10
<b>02 Getting started with green budgeting</b> .....	<b>11</b>
2.1 Key reference frameworks .....	11
<b>03 Optimizing public finances for climate and economic growth: overview of green budget tagging</b> .....	<b>13</b>
3.1 Green budget tagging: an effective entry point .....	13
3.2 Identifying environmentally harmful 'brown' expenditures in budgets .....	14
3.3 Differentiating between 'green' and 'brown' spending .....	16
3.4 How can subnational governments 'green' their brown expenditures? .....	18
3.5 Beyond tagging: building a full green budgeting framework .....	18
<b>04 A strategic toolkit: complementary instruments for green budgeting success</b> .....	<b>20</b>
4.1 Environmental or climate impact assessments .....	22
4.2 Carbon budgets .....	23
4.3 Carbon pricing .....	24
4.4 Green spending reviews .....	24
4.5 Green macrofiscal projection .....	25
<b>05 From principles to practice: recommendations for successful subnational green budgeting</b> .....	<b>27</b>
5.1 Ten recommendations to implement green budgeting at the subnational level ..	27
<b>Conclusion</b> .....	<b>30</b>
<b>Acknowledgments</b> .....	<b>31</b>



# Executive summary

**Climate change is no longer a distant threat but a daily reality, with record-breaking heatwaves, floods, and other extreme events disrupting lives and economies.<sup>1</sup>**

As the crisis accelerates, so too must our response. Yet while governments at all levels have made ambitious climate commitments, implementation often falls short—constrained by limited resources, competing priorities, and the pressures of a global poly-crisis.

In this context, how we plan, budget, and allocate public funds becomes decisive. Aligning fiscal policy with climate goals is essential to close the climate finance gap and turn promises into action. Subnational governments, positioned on the frontlines of climate impacts, have a critical role to play—but they can lack the tools and support to embed climate priorities systematically in their budgets. Green budgeting offers a practical, effective way to bridge this gap.

## **Public budgets must become tools of transformation for subnational climate action**

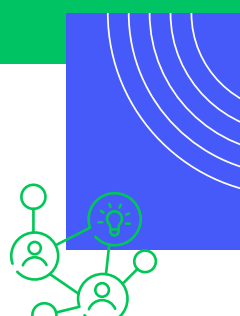
Budgets are among the most powerful instruments governments have to translate policy priorities into tangible outcomes. Every line of expenditure and every revenue choice signal what matters most. Yet too often, climate goals remain separate from the core budget process, limiting their impact. Green budgeting offers a practical way to change this. Through tools to identify, track, and reorient spending, green budgeting enables governments to accelerate emissions reductions, strengthen resilience, and reduce environmentally harmful expenditures—ensuring that public funds truly serve long-term sustainability.

## **Green budgeting can help align public spending with climate action priorities**

Every year, states and regions take crucial expenditure, investment, and revenue decisions with an environmental and climate impact. These budgets shape the infrastructure we build, the transport we subsidise, and the energy systems we invest in. Aligning state and regional budgets with regional mitigation and adaptation goals is a concrete way to ensure climate priorities are integrated in fiscal planning and expenditure.

From environmental impact assessments to green budget tagging, green budgeting tools enable governments to improve transparency and accountability and to track climate-related expenditures and assess fiscal risks. As well as optimising existing finances, green budgeting can increase the ability of government departments and ministries to ensure public spending complements, and does not undermine, subnational climate targets.

<sup>1</sup> World Economic Forum, 2023. Article 'This is the economic cost of extreme weather', [This is the economic cost of extreme weather | World Economic Forum](#)





## A more strategic approach to green budgeting can help address the unique challenges faced by subnational governments when it comes to climate action

Subnational governments have varied levels of autonomy including regulatory, legislative and budgetary policy.<sup>2</sup> Governments with devolved powers can control key policy levers to boost efforts against climate change. Although not universal, many have the legal and fiscal power to instigate real change.

In 2024, the Under2 Coalition – the largest global network of states and regions committed to achieving net zero emissions by 2050 at the latest – spearheaded a transformative initiative to implement green budgeting as a strategic tool for climate action and governance. The Next Generation Budgets project supported states and regions across Europe and the United States in aligning public finances with climate objectives, offering practical guidance, capacity-building across departments, international best practice and insights on green budgeting benefits, challenges and implementation.

## Mainstreaming environmental objectives and bridging ministries

At its core, green budgeting is about mainstreaming climate goals, embedding it into every step of the budget process. This includes assessing the environmental impact of spending decisions, tagging budget lines to reflect their climate relevance, reviewing expenditures to identify opportunities for reallocation, and using fiscal tools to prioritise green investments. Critically, green budgeting is not only a set of technical exercises—it is also an institutional transformation. It requires collaboration between finance and climate ministries, shared methodologies that ensure transparency and credibility, and above all the political will not only to make difficult trade-offs, but also to sustain green budgeting beyond political cycles.

## Implementing green budgeting practices: state and regional examples

The report builds on the experience of states and regions of the Under2 Coalition which participated in the Next Generation Budgets project. Launched in 2015, today the Under2 Coalition represents 183 individual states, regions, provinces, totalling more than 50% of global GDP. Next Generation Budgets is the first Under2 Coalition's project that strengthens subnational capacity and understanding of green budgeting.

<sup>2</sup> New Climate Institute, 2023, Exploring the role of regional governments in achieving the goals of the Paris Agreement, [Exploring the role of regional governments in achieving the goals of the Paris Agreement](#)

## Recommendations for institutionalising green budgeting

Institutionalising green budgeting—embedding it into laws, regulations, and budget cycles – is key to sustain green budgeting in the long term and across leadership changes. It is a political and cultural shift that repositions climate action as a central concern in all aspects of governance. In this report, based on the learnings from the Next Generation Budgets project, we recommend the following for successful subnational green budgeting implementation:

1. Secure political commitment to embed green budgeting into long-term government priorities and debates.
2. Create a cross-department task force, co-led by finance and economy, with active participation from environment and climate departments.
3. Define objectives, budget scope, and priority sectors (e.g. energy, industry, agriculture) to guide the analysis.
4. Base the approach on scientific evidence and align with regional climate strategies.
5. Develop a transparent classification system for budget tagging, with clear criteria consistent with regional strategies and informed by international frameworks.
6. Pilot green budget tagging in key sectors (e.g. transport) to test feasibility, identify barriers, and build departmental buy-in.
7. Invest in training and capacity building, including appointing a green budgeting coordinator, to ensure continuity and improve methods over time.
8. Engage stakeholders and peers, share results, and connect with international and local partners to strengthen practice and vertical integration.
9. Expand green budget tagging to the full budget (revenues and expenditures), complemented by tools such as environmental impact assessments.
10. Publish an annual green budget statement with results, scope, and methodology to promote transparency and accountability.

## Transforming subnational budgets to reach net zero

The Next Generation Budgets project has shown that with the right support and motivation, subnational governments can play a pivotal role in aligning public finances with climate goals.

We must act, fast. The IPCC has made it clear: to keep global warming below 1.5°C, emissions must fall by 43% by 2030.<sup>3</sup> Closing that gap will require massive financial shifts: according to the International Energy Agency, clean energy investment needs to triple to around \$4 trillion annually by 2030.<sup>4</sup> By using existing financial and governance levers more strategically and transparently, subnational governments can dramatically accelerate climate action. The work of the Next Generation Budgets project offers a blueprint: it demonstrates that even in the face of fiscal constraints and political uncertainty, subnational governments can take bold, meaningful steps to embed climate goals into the heart of public budgeting.

3 Intergovernmental Panel on Climate Change, 2022. IPCC Press Release. [IPCC\\_AR6\\_WGIII\\_PressRelease\\_English.pdf](#)

4 International Energy Agency, 2021. Net Zero by 2050: A roadmap for the Global Energy Sector, [Net Zero by 2050 - A Roadmap for the Global Energy Sector](#)

## Methodology

The report draws on insights obtained from a combination of literature review, technical content from the Next Generation Budgets Training Course developed in partnership with Expertise France, and input from participating states and regions. The literature review examined key reports from a selection of international organisations including the Institute for Climate Economics, OECD and the European Commission. The annex provides further details on the green budgeting technical training course.

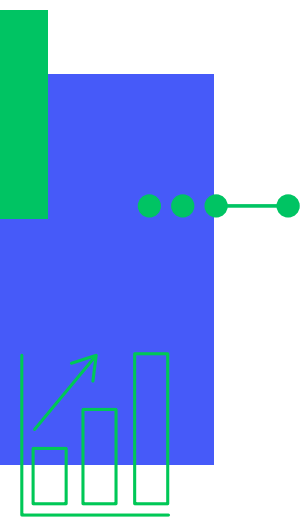
Between October 2024 and May 2025, officials from **Baden-Württemberg, the Basque Country, Catalonia, Colorado, Emilia-Romagna, Hawai'i, Lombardy, Maryland, North Rhine-Westphalia, Scotland, and Wales** took part in a green budgeting skills development training and workshops as part of Next Generation Budgets. Through technical support, peer exchange and tailored implementation plans, governments explored practical ways to align budgets with environmental goals and mobilise climate finance. The 11 participating governments of the **Next Generation Budgets project have a combined budget of \$428.1 billion – larger in size than the GDP of a country such as Denmark (\$407 billion) – showing a tremendous greening potential of their overall budgets.**

The literature review and course content were enriched by insights from a two-day *Next Generation Budgets* workshop in Brussels, Belgium, focused on advancing green budgeting and mobilizing finance and investment. For resources, definitions, and best-practice examples, visit the Next Generation Budgets webpage.<sup>5</sup>



<sup>5</sup> More information about project available on the website: [Next Generation Budgets | Climate Group](#)

# 01 Mainstreaming climate in state and regional budgets: unlocking the power of green budgeting



Integrating climate considerations into states and regions' annual budget process, green budgeting brings strategic climate and environmental plans to life – ensuring that public expenditures are aligned with climate and sustainability commitments, and that key initiatives are prioritised and properly resourced.

It enables subnational governments to promote both transparency and accountability through a 'whole of government' approach where climate action is mainstreamed through every government department and agency.

Once in place, the green budgeting process is a recurring mechanism through which states and regions can continuously ensure climate considerations are central to financial planning, policy decisions, and performance monitoring. Regular updates, aligned with the standard budget cycle, ensure ongoing responsiveness. Ongoing analysis of spending trends, as well as how revenues are used, within key sectors and line ministries, helps guide decisions on where to maintain efforts and where to scale up action.

Moreover, implementing green budgeting serves as an effective way to avoid climate and finance ministries working in silos. By leading the green budgeting effort, the finance department elevates climate action as a fiscal priority and embeds it within financial governance. In institutionalising climate responsibility throughout state and regional administration, green budgeting also extends environmental priorities into broader areas of public investment, such as procurement policies and pension fund strategies.

## 1.1 What is green budgeting?

Green budgeting is an approach that integrates climate and environmental considerations into government budgetary processes. This method involves assessing, planning, and reporting government expenditure and revenue to promote environmental objectives, such as reducing greenhouse gas emissions, conserving natural resources, and promoting renewable energy. In developed economies, aligning budget decisions with climate goals can play an important role in developing investment and financing plans needed to achieve Nationally Determined Contributions (NDCs).

Green budgeting helps governments align financial resources with climate goals, acting as both a management tool and a reality check. While many set net zero targets, annual budgets can contradict these commitments without proper tracking. A green budget analysis—an assessment of a budget’s environmental and climate impact—supports prioritizing investments and spending that advance net zero and resilience objectives.

Ensuring public budgets address climate change is a key opportunity for Ministers of Finance to show leadership. Green budgeting fosters cross-ministry collaboration on climate action, with subnational finance ministries playing a pivotal role in mobilizing investment and driving the transition to net zero, resilient economies. These ministries sit at the centre of state and regional government bodies, coordinating economic, fiscal, and financial policy while shaping the strategies for mobilising investment and overseeing expenditure of government departments.

At the national level, a 2025 survey of the Coalition of Finance Ministers for Climate Action found growing awareness of climate urgency.<sup>6</sup> Yet only 26% of national finance ministries have analysed public expenditure and financing needs for adaptation and resilience, and about half have done so for decarbonization and low-carbon growth.



6 Coalition of Finance Ministers for Climate Action, 2025. A Global Survey of Ministries of Finance: The pressing policy questions Ministries of Finance face in driving green and resilient transitions and their use of analytical tools to address them. Report for the HP4 initiative 'Economic Analysis for Green and Resilient Transitions'.



Green budgeting institutionalises cross-ministerial coordination by creating clear institutional roles, by building climate awareness across departments and enabling joint analysis and decisions.

Next Generation Budgets governments brought together both climate and finance departments, which often worked in siloes, to tackle common challenges around greening budgetary policy and governance. This project demonstrated that green budgeting can help bring an all of government and policy coherence approach. For example:



**Maryland** established a dedicated taskforce that brings together its Department of Budget and Management and the Department of the Environment to coordinate green budgeting efforts.



**Lombardy** formed a cross-departmental working group to co-design its green budget tagging methodology, ensuring it reflected a broad range of policy perspectives.



In **Baden-Württemberg** each ministry was tasked with tagging its own budget lines, encouraging ownership and cross-sector collaboration.



**Catalonia** currently integrates a Climate and Environmental Perspective Report directly into its annual budget bill, supported by a methodology that quantifies climate mitigation and adaptation spending.



In **Hawai'i** green budgeting has been incorporated in Hawaii Department of Transportation's Draft Energy Security & Waste Reduction Plan.



## 1.2 Why subnational governments should implement a green budget

With control over significant resources—37% of public spending, 55% of investment, and 32% of tax revenue in OECD countries<sup>7</sup>—subnational governments can use green budgeting to drive low-emission growth and achieve net zero goals. Subnational interest in green budgeting has grown steadily since the Under2 Coalition's 2022 *Finance Fit for Change*<sup>8</sup> report, which identified common challenges, benefits, and strong demand for support.

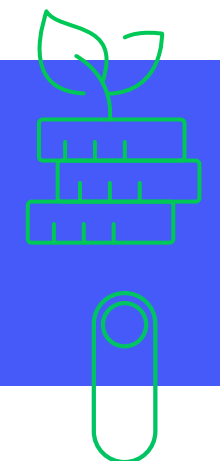
**Achieving net zero emissions by 2050 requires all hands-on decks. Green budgeting is a tool in subnational government's climate strategy toolbox to:**

- Enhance overall governance and integration of climate and environmental policy into public financial management.
- Institutionalise climate and environmental issues during budget discussions with all departments.
- Promote better environmentally and climate responsive decision making.
- Increase transparency and accountability on how public funds contribute to climate and environmental goals.
- Optimise public finances by better resource allocation for climate action, directing resources towards low-carbon and climate-resilient projects.

<sup>7</sup> OECD, 2022, *Aligning Regional and Local Budgets with Green Objectives: Subnational Green Budgeting Practices and Guidelines*, OECD Multi-level Governance Studies, OECD Publishing, Paris, [doi.org/10.1787/93b4036f-en](https://doi.org/10.1787/93b4036f-en).

<sup>8</sup> Climate Group, 2023. *Finance Fit for Change* project report. [Finance Fit for Change project report | Climate Group](#)

# 02 Getting started with green budgeting



## 2.1 Key reference frameworks

The Next Generation Budgets project focused on two green budgeting frameworks outlined below:

### OECD Green Budgeting Framework:<sup>9</sup>

In 2017, the Organisation for Economic Co-operation and Development (OECD) launched the Paris Collaborative on Green Budgeting to assist countries in aligning their fiscal policies with environmental objectives.

This initiative culminated in the development of the OECD Green Budgeting Framework, built upon four key pillars:

1. Strong Strategic Framework: Aligning budgetary policies with environmental and climate goals.
2. Tools for Evidence Generation and Policy Coherence: Utilizing analytical tools to assess the environmental impact of budgetary measures.
3. Reporting to Facilitate Accountability and Transparency: Ensuring open and transparent reporting mechanisms.
4. An Enabling Budgetary Governance Framework: Establishing institutional arrangements to support green budgeting practices.

### EU Green Budgeting Reference Framework (GBRF):<sup>10</sup>

The European Commission introduced the Green Budgeting Reference Framework (GBRF) in 2019 as part of its broader efforts to support Member States in integrating environmental considerations into national budgets.

Key components of the GBRF include:

- Integration of Environmental Objectives: Embedding climate and environmental goals into all stages of the budget cycle.
- Methodological Guidance: Providing standardized approaches for evaluating the environmental impact of budgetary measures.
- Capacity Building: Supporting the development of administrative structures and expertise necessary for effective green budgeting.

9 OECD, 2021. Green Budgeting in OECD Countries. [doi.org/10.1787/acf5d047-en](https://doi.org/10.1787/acf5d047-en).

10 European Commission, 2022. European Union Green Budgeting Framework. [Green budgeting in the EU - European Commission](#)



# Baden- Wurttemberg, Germany

**Population:** 11.25 million (2024)  
**GDP:** €650 billion (2024)  
**Annual budget:** €66.5 billion (2025)

**Baden-Württemberg aims for climate neutrality by 2040, with a 65% emissions reduction from 1990 levels by 2030.<sup>11</sup>**

The Ministry of Finance has advanced this goal through Green Bonds (since 2021) and the Sustainable Financial Investment Act (2023). Green budgeting supports climate-aligned spending by identifying budget items that benefit climate, environment, and nature goals—a process currently carried out by line ministries. The next step is refining this approach with a clear tagging methodology.

Early results include:

1

### Development of a green budget methodology

- By 2026, Baden-Wurttemberg aims to complete their regional methodology, recognizing that there is no “one-size-fits-all” approach and planning an initial pilot of the methodology.

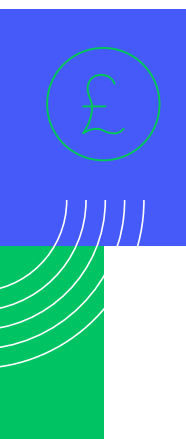
2

### Institutionalization of green budget principles

- The Ministry of Finance is leading this effort and driving regular meetings and discussions with a wide range of external experts, practitioners and internal colleagues.

<sup>11</sup> Klimaschutz- und Klimawandelanpassungsgesetz Baden-Württemberg, 2023. [um.baden-wuerttemberg.de/de/klima-energie/klimaschutz/klimagesetz-baden-wuerttemberg](https://www.um.baden-wuerttemberg.de/de/klima-energie/klimaschutz/klimagesetz-baden-wuerttemberg)

# 03 Optimizing public finances for climate and economic growth: overview of green budget tagging



## 3.1 Green budget tagging: an effective entry point

For states and regions starting their green budgeting journey with the Next Generation Budgets project, green budget tagging proved an effective first step. It systematically identifies, categorizes, and tracks the environmental and climate impact of public spending, enabling authorities to see which budget lines support—or undermine—climate goals.

Insights from tagging help subnational governments align budgets with climate commitments by phasing out harmful spending and increasing investments that support net zero goals. As reported by The Institute for Climate Economics (I4CE), the objective is to *'improve the impact of the budget on the climate year on year, by ensuring that actions and investments progressively eliminate expenditure with a negative impact on climate mitigation and increase expenditure that supports the transition to net zero emissions.'*<sup>12</sup>

Using a taxonomy or classification grid, green budget tagging can assess both the nature and degree of environmental impact of each budget item. For example, the methodology developed by I4CE with French local authorities in 2020 uses criteria from the EU taxonomy, EU Green Bond standards, France's low-carbon strategy, and scientific literature to classify spending from highly favourable (compatible with climate neutrality); favourable (positive impacts but not directly compatible with climate neutrality); neutral (having no significant impacts); or unfavourable (not compatible with climate neutrality).<sup>13</sup>



<sup>12</sup> Fetet, Marion; Nicol, Morgane; Perrier, Quentin; Stroeymeyt, Louis; Depoues, Vivian. Climate assessment of local authority budgets: Methodology guide. Institute for Climate Economics (I4CE), Paris, November 2020. Retrieved from [www.i4ce.org/wp-content/uploads/I4CE-Budget-climate-assessment-methodology.pdf](http://www.i4ce.org/wp-content/uploads/I4CE-Budget-climate-assessment-methodology.pdf)

<sup>13</sup> Institute for Climate Economics (I4CE), November 2020. Local Budgets Climate Assessment: Objectives and Approach, [Budget climate assessment - EN - web.pdf](#)



New York City's climate budgeting methodology uses a classification grid developed by the Mayor's Office of Management and Budget to evaluate capital projects over \$50,000 for their alignment with climate goals. Each project is assessed across three dimensions: greenhouse gas emissions, climate resiliency, and additional environmental benefits. Based on this assessment, expenditures are classified into five categories: 'aligned', 'aligned component', 'not aligned (short-term benefit)', 'not aligned', and 'no impact'.<sup>14</sup>

Subnational governments can use existing classification frameworks like the above to inform the definition of their own green budget tagging methodology. To be successful, effective tagging requires cross-ministerial collaboration, clear guidance, and robust validation.

### 3.2 Identifying environmentally harmful 'brown' expenditures in budgets

Comprehensive green budget tagging must also include "brown tagging", identifying expenditures that are environmentally harmful, such as fossil fuel subsidies, investments in high-emissions infrastructure, or policies that incentivize deforestation. Recognizing brown spending is essential to avoid greenwashing and to establish a roadmap for budget and fiscal transformation.

Over time, governments should use the tagging results to reorient expenditures, phasing out brown items while scaling up green investments, thereby aligning public finances with long-term climate and biodiversity goals. For example, in France, the Public Finance Programming Law for 2023–2027 sets a target of reducing by 20% the ratio between 'brown' expenditures and 'green' (or 'mixed') expenditures.<sup>15</sup>

14 The City of New York, 2025, Technical Appendices: New York City Climate Budgeting, [Technical Appendices: New York City Climate Budgeting](#)

15 Official Journal of the French Republic, 2023. LOI n° 2023-1195 du 18 décembre 2023 de programmation des finances publiques pour les années 2023 à 2027. LOI n° 2023-1195 du 18 décembre 2023 de programmation des finances publiques pour les années 2023 à 2027 (1) - [Légifrance](#)



## Hawai'i, United States of America

**Population:** 1.45 million (2024)  
**GDP:** \$90.3 billion (2024)  
**Annual budget:** \$19.2 billion (2025)

Hawai'i has one of the most ambitious U.S. climate frameworks, committing to cut emissions 50% by 2030 (from 2005 levels) and become carbon negative by 2045.<sup>16</sup>

While Hawai'i does not have a formal green budgeting framework, climate priorities are embedded in the state budget through line items and special funds – most notably the recently approved “Green Fee” on tourism, expected to raise \$100 million annually for resilience projects.

Initial barriers that Hawai'i was facing at the start of their green budgeting journey were lack of familiarity with green budgeting tools and competing priorities within the state budget. Moving forward, the state aims to clarify what counts as “green” spending, have a better understanding on how much of State budget is spent on climate change and achieve increased transparency and alignment of funding to match climate action priorities. Plans for 2025–26 include the integration of green budgeting principles into policy making: green budgeting has been incorporated in Hawaii Department of Transportation’s Draft Energy Security & Waste Reduction Plan<sup>17</sup>, as an Administrative Strategy to reduce emissions.

<sup>16</sup> State of Hawai'i, 2022. Act 238, 'A Bill for an Act Relating to Climate Mitigation'. [SLH2022\\_Act238.pdf](#)

<sup>17</sup> Hawai'i Department of Transportation, 2025. Hawai'i energy security and waste reduction plan. [hidot.hawaii.gov/wp-content/uploads/2025/06/Draft-ESWRP-6.27.25.pdf](#)



### 3.3 Differentiating between ‘green’ and ‘brown’ spending

**Green spending** refers to public expenditures that support environmental and climate goals, such as:

- Investments in renewable energy, energy efficiency, public transport, biodiversity, and climate adaptation.
- Spending that aids the transition to a low-carbon economy and helps achieve net zero targets.

**Brown spending** refers to expenditures that harm the environment, including:

- Subsidies or investments in fossil fuels.
- Infrastructure that locks in high emissions.
- Activities that degrade ecosystems or increase climate vulnerability.

For reference, the Directorate-General for Economic and Financial Affairs of the European Commission has introduced two lists of budgetary items<sup>18</sup> that could serve as a starting point for states and regions that wish to define their green and brown budget items. It includes examples of brown expenditures such as reduced fuel taxes for heavy vehicles or aviation, or R&D with no environmental benefits for air and boat navigation.

#### Why local guidance matters

Clear subnational guidance on what counts as green or brown is essential for consistent tagging, for three reasons:

1. **Local context matters** – Criteria must reflect state or regional environmental goals, such as energy renovation standards or winter comfort thresholds for buildings.
2. **Consistency across areas** – Rules are needed to consolidate impacts across climate, biodiversity, water, etc., and some items fall into “grey areas” that require political judgement.
3. **Transition spending** – Methodologies may need to account for items that are partially brown but reduce emissions compared with current practices, using shades of green or brown.

<sup>18</sup> European Commission, 2022. Green and Brown budgetary items lists. [economy-finance.ec.europa.eu/economic-and-fiscal-governance/national-fiscal-frameworks-eu-member-states/green-budgeting-eu\\_en](https://economy-finance.ec.europa.eu/economic-and-fiscal-governance/national-fiscal-frameworks-eu-member-states/green-budgeting-eu_en)



# Catalonia, Spain

**Population:** 8.01 million (2024)  
**GDP:** €316 billion (2024)  
**Annual budget:** €43.6 billion

Catalonia's climate strategy, anchored in the 2017 Climate Change Law targets a 29% emissions reduction by 2030 (from 1990 levels).<sup>19</sup>

In 2022, the Ministry of Economy and Finance and the Climate Change Office first integrated climate considerations into the regional budget, developing a green expenditure tagging methodology that has been refined over time.

Early results of Catalonia's major green budgeting effort include:

- 1 Integration of the climate and environmental perspective into the budget cycle:**
  - The climate and environmental impact are now quantified during budget preparation and execution. The next step is to integrate this perspective into budget requests, ensuring it also serves as a reference during budget negotiations.
- 2 Development of comprehensive green budget tagging methodology:**
  - Catalonia's existing methodology, inspired by international frameworks (notably Rio markers), quantifies green expenditure for climate change mitigation and adaptation.
  - The possibility of defining a new methodology is being explored, to expand the current green budget tagging to also include undefined, brown, and green expenditures
- 3 Institutionalization of green budgeting:**
  - Public policy evaluations and expenditure reviews to gather evidence on the effectiveness of current climate and environmental policies. The government's goal is to establish an interdepartmental working group between the Department of Economy and the Catalan Office of Climate Change to lead green budgeting implementation and rollout of capacity-building workshops for climate-focused units.

<sup>19</sup> Comunidad Autónoma de Cataluña, 2017. Ley 16/2017 del cambio climático. [BOE-A-2017-11001 Ley 16/2017, de 1 de agosto, del cambio climático.](#)

### 3.4 How can subnational governments ‘green’ their brown expenditures?

Once ‘brown’ budget items are identified, subnational governments should reallocate funds toward green expenditures. Green budget tagging is not just for tracking—it guides decision-making to ensure an increasing share of public funds supports climate objectives.

	Greening your overall budget	Actions governments can take
1	<b>Reorient brown expenditures towards green actions.</b>	<ul style="list-style-type: none"> <li>• Implement a regular review of gross expenditures, including identification of the obstacles for reducing expenditures and the definition of multi-year reduction strategies including transition solutions.</li> <li>• Apply clear criteria when granting subsidies or planning purchases.</li> </ul>
2	<b>Move expenditures from light green to dark green categories (where applicable).</b>	<ul style="list-style-type: none"> <li>• Incorporate the green tagging process early in budget decision-making to support budget choices aligned with environmental goals, by bringing tagging criteria up to the project design level.</li> </ul>
3	<b>Increase the share of green investments.</b>	<ul style="list-style-type: none"> <li>• Align the timing of policy or program approvals with green tagging results to ensure that green budget information informs decision-making.</li> <li>• Define a percentage target for green investment over a given timeframe.</li> </ul>

### 3.5 Beyond tagging: building a full green budgeting framework

Once a green budget tagging methodology is in place, it is important to define a multi-year investment trajectory compatible with the investments the climate strategy need: ideally, a target amount of green investment should be set.

However, green budget tagging alone is not sufficient to drive meaningful environmental and climate outcomes. To be truly effective, it must integrate complementary tools that provide strategic direction and long-term planning support.



# Lombardy, Italy

**Population:** 10 million (2025)  
**GDP:** €490.3 billion (2023)  
**Annual budget:** €34 billion (2025)

Lombardy pursues a multi-pronged climate strategy through its Regional Energy, Environment & Climate Programme, aiming for net zero emissions by 2050.<sup>20</sup>

In 2025, it adopted its first Regional Climate Law, updated its Adaptation Strategy, and uses sectoral tools from energy efficiency to green procurement. Since 2024, with Baden-Württemberg and support from the Technical Support Instrument (TSI), Lombardy has developed transparent green budget tagging to align annual budgets with climate priorities—tracking harmful subsidies, ringfencing green infrastructure, and monitoring procurement.

Early results of Lombardy’s effort through Next Generation Budgets and the TSI include:

1

### Development of a green budget methodology

- The team is developing a green budget tagging operational methodology, aimed at covering not only climate mitigation and adaptation, but also the other EU taxonomy items.
- The aim is to systematically map the resources allocated to climate, environmental and sustainability actions within the budget.
- Establishment of an environmental reading of the financial statements to strengthen ex post reporting and public accountability.

2

### Institutionalization of green budget principles:

- The government has established an inter-directional working group.
- Regular meetings to collect the necessary information to develop the methodology, using the data already available.

3

### Provide internal training and awareness:

- Through workshops and seminars, staff are trained to make the green budget a regular procedure for public officials.

<sup>20</sup> Regional Energy, Environment & Climate Programme, December 2022. Regione Lombardia. [Regional Energy Environment Climate Programme \(REECP\)](#)

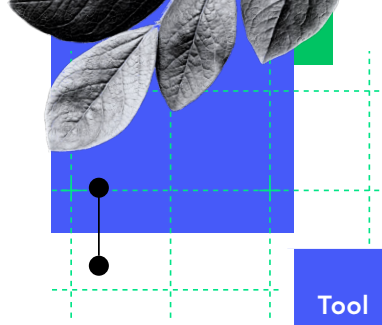
# 04 A strategic toolkit: complementary instruments for green budgeting success

Subnational governments can draw on a wider suite of tools complementary to green budgeting.

These tools provide a rigorous framework to translate climate commitments into concrete budget decisions—enabling governments to strategically prioritize investments, assess risks, and eliminate misaligned spending.

Together, they help governments put their money where their climate goals are, driving coherence between policy ambitions and financial realities. This integrated approach strengthens green budgeting, ensuring public finances become a powerful lever for transformative and credible climate action





Tool	Main benefits
<b>Green budget tagging</b>	<ul style="list-style-type: none"> <li>• Tracks how public funds are aligned with environmental objectives and how much is spent on climate or environmental action</li> <li>• Enables tracking of progress over time</li> <li>• Improves policy coherence: helps avoid contradictory policies</li> <li>• Facilitates reporting on climate finance and enhances credibility and access to green finance</li> </ul>
<b>Environmental impact assessments</b>	<ul style="list-style-type: none"> <li>• Identifies and mitigate risks</li> <li>• Optimises project design and mitigate negative impacts</li> <li>• Assesses the potential effectiveness of an expense (inform the choices between different options)</li> <li>• Establishes a baseline for monitoring</li> </ul>
<b>Carbon budgets</b>	<ul style="list-style-type: none"> <li>• Improved policy coherence across departments</li> <li>• Guide policy and sectoral planning</li> <li>• Support fiscal and investment planning</li> </ul>
<b>Carbon pricing</b>	<ul style="list-style-type: none"> <li>• Makes the costs of carbon visible in public accounts</li> <li>• Generates revenues</li> <li>• Provides a clear price signal</li> <li>• Encourages cleaner technologies and energy efficiency</li> </ul>
<b>Green spending review</b>	<ul style="list-style-type: none"> <li>• Encourages cross-ministerial collaboration and whole-of-government approaches</li> <li>• Supports long-term reallocation of funds</li> </ul>
<b>Green macrofiscal projection</b>	<ul style="list-style-type: none"> <li>• Aligns fiscal policy with climate goals</li> <li>• Performs cost-effectiveness analysis</li> <li>• Integrates climate risks into budget planning, stability programs and fiscal rules</li> </ul>

#### 4.1 Environmental or climate impact assessments

Environmental impact assessments (EIAs) are regulatory or planning tools used to evaluate the potential or actual environmental and climate impacts of a project, policy, or expenditure. Their primary goal is to identify ways to prevent, reduce, or offset negative environmental effects. Most commonly, these assessments are conducted ex ante (before implementation) to inform decision-making. Impact assessments can help gather information to classify expenditures in a green budget tagging analysis, informing green budgeting by:

1. Providing environmental evidence for the design and evaluation of budget proposals
2. Helping identify environmentally harmful spending (e.g. subsidies or infrastructure with negative impacts)
3. Supporting green budget tagging by offering robust impact data

At the subnational level, many governments already adopt these measures. For example, **Lombardy** region in Italy handles environmental impact assessments for most non-national infrastructure (e.g., regional roads, industrial zones, waste facilities) and the **Welsh** government in the United Kingdom, is responsible for environmental regulation and planning, including EIAs for infrastructure projects.





## 4.2 Carbon budgets

A carbon budget defines the maximum allowable volume of greenhouse gas (GHG) emissions that a territory, sector, or institution can emit over a given period to remain aligned with climate mitigation objectives. To monitor the consumption of a carbon budget effectively, it is essential to quantify the carbon impact of individual policies, investments, or projects. However, achieving the necessary precision in emissions monitoring presents significant challenges, particularly in terms of data availability, quality, and methodological consistency. Subnational carbon budgets can reinforce green budgeting efforts with:

- 1. Policy Alignment:** A carbon budget defines the “*what*” (emissions trajectory), and green budgeting guides the “*where*” to spend financial resources (budget decisions to get there).
- 2. Accountability:** Green budgeting can track whether fiscal measures are aligned with staying within the carbon budget.
- 3. Priority Setting:** Carbon budgets can help governments prioritize budget measures that have the largest emissions impact.
- 4. Public Communication:** Together, they offer a clear narrative: “This is our emissions ceiling (carbon budget), and this is how our public finances (green budgeting) support achieving it year on year.”

Scotland and Wales are among the few subnational governments worldwide that have adopted a five-year statutory carbon budget system. In Wales, carbon budgets are separate to the regular budget and are set under the Environment (Wales) Act 2016, which requires the Welsh Ministers to set carbon budgets for each five-year period.<sup>21</sup>

<sup>21</sup> Government of Wales, Net Zero Wales, Second Carbon Budget (2021-25), [Net Zero Wales: Carbon budget 2 | GOV.WALES](https://gov.wales)

### 4.3 Carbon pricing

Carbon pricing is a policy instrument that assigns a monetary value to greenhouse gas (GHG) emissions to reflect their environmental and social costs—such as damage from extreme weather, health impacts, and economic losses due to climate change. The goal is to incentivize individuals, businesses, and public institutions to reduce emissions by internalizing the external cost of carbon. Carbon pricing is relevant to green budgeting for:

1. **Revenue Use:** Green budgeting frameworks evaluate how carbon pricing revenues are used (e.g. to support clean energy, vulnerable households, etc.).
2. **Policy Coherence:** A green budget should reflect all major climate policies, including carbon pricing schemes.
3. **Environmental Impact Assessment:** Carbon pricing affects emissions and can be considered in environmental impact analyses of fiscal measures.

At the subnational level, **Quebec, British Columbia** (Canada) and the Regional Greenhouse Gas Initiative (involving 11 US states) have established cap and trade carbon markets. Nine states in Mexico are also enforcing CO<sub>2</sub> taxes, with **Querétaro's** carbon tax on industrial emissions allowing companies to offset a portion of their tax liability by purchasing carbon credits.<sup>22</sup>

And **Catalonia**, in Spain is one of the few European regions to have a carbon tax. The income from the tax, estimated at around EUR 140m a year, is shared equally between the Natural Heritage Fund and the Climate Fund.<sup>23</sup> Finally, the State of **Hawaii**, in USA has become the first US State to charge a green fee on tourism, expected to generate \$100m annually and supported by a Green Fee Advisory Council, who will be responsible for giving guidance on how to spend the newly enacted Green Fee funds. The funded projects will include environmental stewardship, climate and hazard resiliency, and sustainable tourism.<sup>24</sup>

### 4.4 Green spending reviews

A green spending review evaluates whether government spending supports or hinders environmental and climate objectives. Similar to a traditional spending review but with a climate lens, it identifies opportunities to reprioritize, reform, or phase out misaligned spending. While tagging shows how green a budget is and impact assessments evaluate new proposals, a green spending review looks back to ask: are we spending wisely to meet climate goals? It serves as a key tool for diagnostics, prioritization, and accountability.

Green spending reviews are considered a core green budgeting tool in many frameworks such as the OECD Green Budgeting Framework and the International Monetary Fund's Climate-Public Investment Management Assessment.<sup>25</sup>

At the subnational level, Scotland embeds climate priorities in multi-year spending reviews; its 2023 Resource Spending Review channels over £500 million toward net zero programs over three years, supporting a just transition by 2045.<sup>26</sup>

22 World Bank. 2025. State and Trends of Carbon Pricing 2025. Washington, DC: World Bank. DOI: 10.1596/978-1-4648-2255-1. License: Creative Commons Attribution CC BY 3.0 IGO

23 Generalitat de Catalunya, February 2020, Press release, [Catalan government adopts decree to regulate Climate Fund - Catalangovernment.eu](#)

24 Office of the Governor, State of Hawai'i, August 2025. News release, [Governor Josh Green, M.D. | Office of the Governor – News Release – Gov. Green Announces Appointment of Green Fee Advisory Council](#)

25 International Monetary Fund, 2022. Strengthening Infrastructure Governance for Climate-Responsive Public Investment. [doi.org/10.5089/9781616355098.007](https://doi.org/10.5089/9781616355098.007)

26 The Scottish Government, May 2022. Investing in Scotland's Future: Resource Spending Review

## 4.5 Green macrofiscal projection

Green macrofiscal projections integrate environmental goals into economic forecasts that explicitly account for the economic impacts of climate change and environmental policies. Conducted before policy implementation, they integrate physical climate risks, transition risks and environmental degradation impacts.

**They reinforce green budgeting by providing a credible, evidence-based fiscal context for green decisions, which can help:**

- Justify prioritising green investments even when short-term costs are high,
- Encourage policy coherence between ministries (e.g. finance, environment, energy),
- Align public borrowing and debt issuance with climate-resilient growth pathways,
- Integrate climate risk into budget planning, stability programs and fiscal rules.

## Linking Public Procurement and Green Budgets

Public procurement is a powerful lever for achieving climate and environmental goals. Since it represents a large share of public expenditure, directing procurement towards green products and services can significantly reduce emissions, stimulate markets for sustainable solutions, and align public spending with national and international climate commitments.

By linking procurement policies with budget tagging, governments can better understand the climate impact of their purchases. According to I4CE, sustainable procurement policies can interact with budget tagging in three ways:



### Changing the classification of a budget line:

For example, switching electricity supply to 100% renewable changes the corresponding expenditure to fully “green.”



### Reducing the size of an unfavorable expenditure:

For example, buying second-hand IT equipment both lowers costs and reduces associated emissions.



### No direct impact with classification:

For example, using lower-emission materials to build a road does not alter the fact that constructing new road infrastructure is still environmentally “unfavorable.”



# Maryland, United States of America

<b>Population:</b>	6.3 million (2025)
<b>GDP:</b>	\$512.3 billion
<b>Annual budget:</b>	\$66.83 billion (fiscal year 2025)

Maryland's Climate Solutions Now Act of 2022 sets ambitious targets: a 60% reduction in greenhouse gas emissions by 2031 (from 2006 levels) and net zero by 2045.<sup>27</sup>

While the Department of Budget and Management (DBM) does not yet tag budget items for climate impact, the state tracks GHG emissions across sectors to inform policy. Since 2023, the Department of the Environment (MDE) has monitored state agency spending on GHG reduction, but coordination with DBM remains limited. Aligning climate and budget teams has therefore become a key focus since Maryland joined the Next Generation Budgets initiative in 2024.

Early results of this effort include:

- 1 Cross-departmental coordination**
  - Maryland's Next Generation Budgets taskforce meets periodically to discuss the next steps of their green budgeting strategy.
- 2 Long-term plans**
  - Maryland is working on a new financial management system, as the current outdated software does not support tagging.
  - The Next Generation Budgets taskforce is working to make sure green budget tagging is incorporated in this new system over the next 3-5 years.
- 3 Short-term plan:**
  - The Department of Budget and Management and the Department of the Environment are working together to improve the state's annual GHG spending analysis in 2025, enhancing coordination between agency program staff and fiscal officers.
  - Maryland is considering piloting 1-2 methodologies learned through Next Generation Budgets' curriculum.

<sup>27</sup> State of Maryland, Climate Solutions Now Act, June 2022. [2022 Regular Session - Fiscal and Policy Note for Senate Bill 528](#)

# 05 From principles to practice: recommendations for successful subnational green budgeting

## 5.1 Ten recommendations to implement green budgeting at the subnational level

All subnational governments, regardless their size and jurisdictional powers, can implement green budgeting tools such as green budget tagging, however getting started can feel daunting. States and regions are encouraged to use these recommendations as a checklist of actions to carry out along the process and feel part of a growing global community of states and regions testing green budgeting approaches and reap the rewards of a transparent alignment of public budgets and climate goals.

Importantly, this process is not one-size-fits-all—it is iterative, adaptable, and should reflect the unique governance, climate priorities, and fiscal frameworks of each jurisdiction.

### To ensure success, we recommend the following steps:

#### 1. Secure political buy-in to implement a subnational green budget approach.

- Strong political leadership and clear institutional arrangements are foundational for effective green budgeting with a whole-of-government approach.
- High-level buy-in from key ministries—especially Finance, Economy, and Environment, Climate Change—is crucial to drive momentum and legitimacy.

#### 2. Form a cross-department green budget task force that includes both the environmental and finance departments or ministries.

- Strong co-leadership and sponsorship from the departments of finance and economy is vital. While they take the lead in implementing the process, close collaboration with the environmental and climate department, and clear definition of roles, are strongly encouraged.

#### 3. Define objectives, budgetary scope and priority sectors to be covered by the green budgeting analysis.

- States and regions are encouraged to agree on top objectives (e.g. enhance the transparency and accountability of your climate and environmental action) and financial scope (e.g. include both revenues and expenditures of main budget).
- Priority sectors should include from the outset energy, industry and agriculture.



#### **4. Ensure the green budget approach relies on robust scientific evidence and aligns with the regional climate strategy**

- As recommended by the OECD, green budgeting approaches should be based on sound climate science and regional climate plans, to ensure development is grounded in local priorities.
- For green budgeting to be effective, especially green budget tagging, the underlying process must be simple, transparent, and grounded in science. For example, the use of clear, consistent tagging criteria aligned with reference frameworks.

#### **5. Develop a robust and consistent classification system for green budget tagging, to guide the definition of climate favourable and unfavourable items.**

- Tagging can be introduced as a first green budgeting tool. It is important to establish clear criteria for the classification system, to accurately assess the budget's positive and negative impacts on climate goals.
- Governments are encouraged to develop their own classification grid, consistent with their regional climate strategy.
- Methodologies can be informed with the classification grids developed by the Institute for Climate Economics and with the EU Green Budgeting Reference Framework.

#### **6. Once the methodology is established, pilot green budget tagging in key departments and sectors.**

- To manage implementation burdens, testing approach first in key departments, for example transport, can help to identify barriers and address concerns early. Secure leadership and political buy-in from departments selected for the pilot.

## **7. Ensure regular training and capacity development within line Ministries to maximize learnings and improve methodology**

- Developing internal expertise is vital for mainstreaming green budgeting into everyday governance and to continue over time. Subnational governments should provide training and upskilling to staff across departments to minimize reliance on a few individuals.
- Governments should use the results of the pilot analysis to assess how expenditure aligns with the current government's climate and environmental policies and propose how this can inform future spending decisions.

## **8. Incorporate feedback from all relevant stakeholders and best practice from Under2 Coalition to improve processes.**

- The cross-departmental green budget task force should engage with key actors in the government and relevant government agencies to share objectives and results of green budget tagging analysis and ensure a whole-of-government approach.
- Subnational governments are encouraged to connect with international peers to identify what works best in practice. Sharing green budgeting experiences with cities within their jurisdiction can help foster vertical integration of green budgeting measures.

## **9. Expand green budget tagging to full budget and strengthen green budgeting efforts.**

- The approach should cover both revenues and expenditures, and tag thoroughly all measures that have negative effects on reaching your environmental and climate goals.
- Tools such as environmental impact assessment and climate cost-benefit analyses can help to make informed decisions on where to spend and invest today to prevent carbon lock-in.
- Make a plan to shift public resources towards environmentally sustainable expenditures. This reallocation is the core purpose of green budgeting and ensures that future budgets actively support climate and environmental goals.

## **10. Publish a green budget statement alongside the annual state and regional budget for increased transparency**

- Governments should make green budgeting statements and methodology publicly available. Transparency builds trust and allows citizens, businesses, and other stakeholders to understand how public funds are being allocated towards climate targets.
- Publish the results of your green budget tagging and include the specific scope of analysis and methodology chosen.
- Aim to include your green budget statement in debates or approval by relevant committees or regional assemblies.

Green budgeting is an iterative and adaptive approach. It can be built on over successive budget rounds as capacities develop, and systems are enhanced.

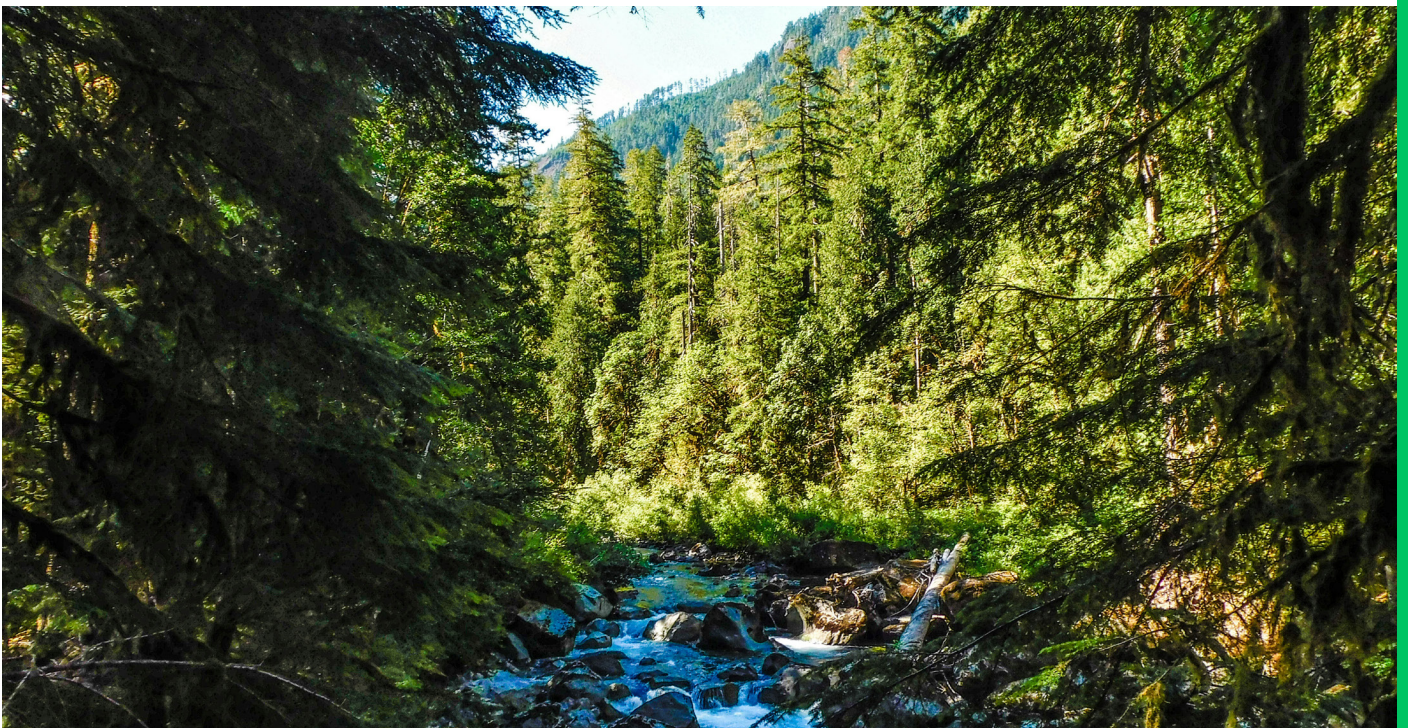
# Conclusion

The world faces a convergence of crises: climate change is accelerating with record heat, rising seas, and extreme weather pushing us toward the 1.5°C limit, while governments contend with geopolitical tensions, inflation, and strained public finances.

In this context, green budgeting is not optional—it is essential. It aligns fiscal policy with climate goals, ensuring limited resources are used strategically, transparently, and in support of a sustainable future.

By starting with green budget tagging and building capacity across departments, subnational governments can embed climate action into the heart of public financial management. Lessons from the Next Generation Budgets project show that success depends on realistic timelines, staff training, clear criteria, and sustained political will—supported by complementary tools such as carbon pricing and environmental impact assessments.

With just five budget cycles left before 2030, when emissions must fall 43% to keep 1.5°C within reach, subnational governments have no time to lose. Green budgeting is a proven, science-based tool to align every dollar with climate goals, strengthen resilience, and drive the transition to a thriving net zero future—even in times of uncertainty. The moment to act is now.





# Acknowledgments

We would like to thank the state and regional governments taking part in Next Generation Budgets project, for their commitment.

We also express our gratitude to **Clement Chevalier at EcoAct (Schneider Electric)** for the development of the subnational green budgeting training course, summarised in this document.

Climate Group is also grateful for the support of **Stiftung Mercator GmbH** and the cooperation of **Expertise France**.

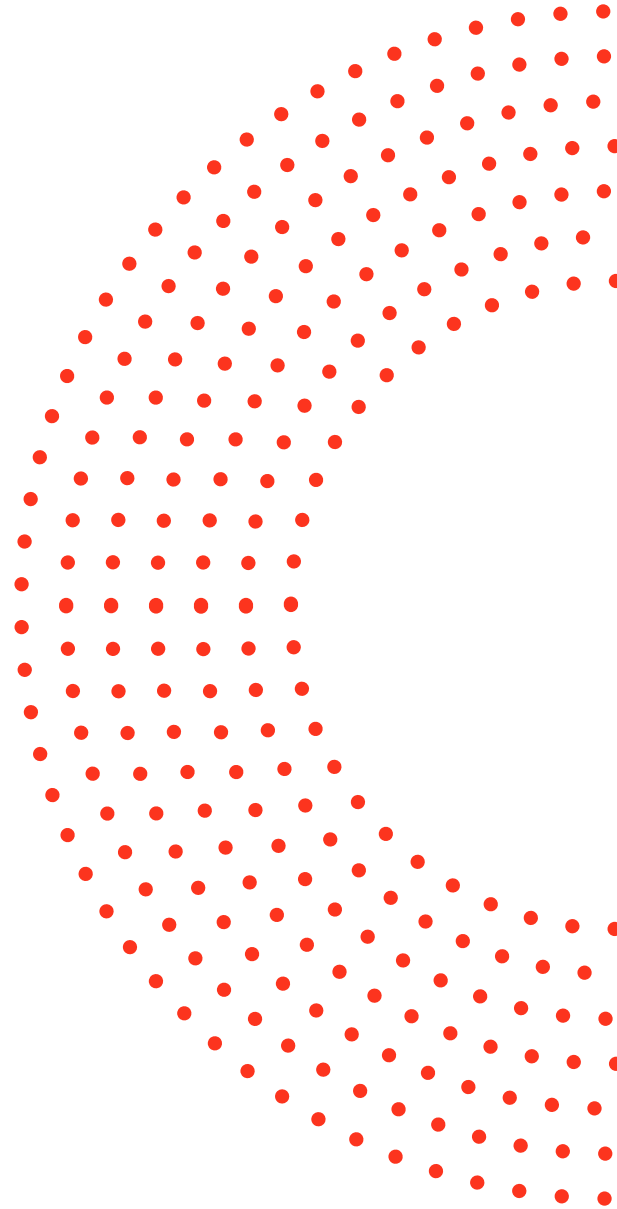
**Authors:** Virginia Bagnoli, Jessica Cook  
**Design:** Alchemy Mill



Secretariat  
**CLIMATE GROUP**

## About the Under2 Coalition

Climate Group is the secretariat to the Under2 Coalition, which is the largest global network of states, regions, provinces and other subnational governments committed to achieving net zero emissions by 2050 at the latest. Our co-chairs are: Alan Winde in Africa (Premier of Western Cape), Governor Kim Tae-heum in Asia-Pacific (Government of Chungcheongnam-do), John Swinney in Europe (First Minister, Government of Scotland) and Mauricio Kuri González in Americas (Governor of Querétaro). Some of our members include California, Wales, and Baden-Württemberg among others.



With the support of:

**STIFTUNG  
MERCATOR**

Project partners:

Ministry of Economic Affairs,  
Industry, Climate Action and Energy  
of the State of North Rhine-Westphalia



**EXPERTISE  
FRANCE**  
GROUPE AFD

**I4CE** INSTITUTE FOR  
CLIMATE  
ECONOMICS



The Climate Change Organisation (Climate Group) with Company Registration Number: 4964424 and Charity Registration Number: 1102909  
The Climate Group, Inc. is a U.S. registered 501(c)3 with EIN 43-2073566.  
M/s TCCO India Projects Private Limited with Corporate Identity Number U74999DL2018PTC334187  
Stichting Climate Group Europe, with Chamber of Commerce KVK number 87378426