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World Bank Reference Guide to Climate Change Framework Legislation

December 2020



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Preface

Climate change is a grave threat to global development and shared prosperity. Its impacts are expected to intensify even as the world responds to the COVID-19 crisis. The poor and most vulnerable will be the worst affected.

Climate change poses particularly difficult challenges for policy makers. It demands action across all sectors of the economy and across all of society. Action to address climate change requires coordination among multiple governmental and nongovernmental stakeholders. The extended time frame over which climate change unfolds requires a capability to plan, implement, and sustain a credible commitment to increasingly ambitious policies over multiple political cycles. There will be winners and losers. Policies will often be contested.

To address these challenges, countries need effective institutions. National framework legislation on climate change can help put these institutions in place. It can enshrine stable and ambitious targets, create mechanisms for realizing these targets, and ensure proper oversight and accountability. It can provide a voice for not only those living today but also future generations.

More than 30 countries have already adopted climate change framework legislation, and others are in the process, including some with World Bank support. Framework legislation can provide the means for countries to realize the commitments made in their Nationally Determined Contributions and long-term strategies. We hope the 12 key principles for framework legislation laid out in this guide will contribute to building back better by helping countries to lay a solid foundation for climate-smart development that creates new jobs and markets, boosts economic growth, and provides a safer, cleaner environment for all.

Ed Olowo-Okere

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December 2020



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Summary Sheet

What are the benefits of adopting climate change framework legislation? What key elements should such legislation address? What questions should officials in ministries of economy, finance, and planning and other central government agencies have in mind when reviewing such legislation, and what examples can be followed? This *Reference Guide to Climate Change Framework Legislation* aims to help policy makers understand the benefits of legislating on climate change and establishes 12 key elements to assess framework laws. These elements, and accompanying questions, are contained in the table below. The table is followed by more detailed supporting information, expanded country examples, and an assessment of existing national framework legislation against the questions.¹

1. For questions, comments, or more detailed advice please contact Nicholas Menzies (Senior Governance Specialist), nmenzies@worldbank.org.

| ELEMENT | QUESTIONS AND EXAMPLES |
|--|--|
|  <p>1 Long-Term Targets</p> | <p>Does the law enshrine emissions reduction targets for 2050 and include a net zero target (ideally by 2050 or shortly thereafter)? Does the law specify objectives for adaptation?</p> <ul style="list-style-type: none"> • 2050 net zero targets are included in climate laws in Chile (draft law), Denmark, France, Germany, Norway, Sweden (2045), and the United Kingdom; and in executive acts in Costa Rica, Fiji, and the Marshall Islands. • Singapore has legislated a long-term adaptation target of a 10-fold increase in desalination capacity to meet 30 percent of long-term water needs by 2060. Mexico's law establishes a high-level objective of reducing the vulnerability of the population and ecosystems to the adverse effects of climate change. |
|  <p>2 Intermediate and Sectoral Targets</p> | <p>Does the law enshrine emissions reduction targets for 2030? Does the law include a mechanism for translating targets into action (for example, carbon budgets and sectoral targets)? Does the law provide a mechanism to periodically increase the level of ambition in emissions reductions (and at least contain a clause to prevent backsliding)?</p> <ul style="list-style-type: none"> • Mexico has legislated an emissions reduction target for 2030 that is 22 to 36 percent below business as usual, and Denmark has set a 70 percent reduction below 1990 levels by 2030. • A carbon budgeting approach of progressive intermediate targets set well in advance is used in legislation in France, New Zealand, and the United Kingdom. • Mexico's law allows emissions targets to be changed only if they increase the level of ambition. • Framework laws in France, Germany, and Mexico establish specific sectoral targets. |
|  <p>3 Risk and Vulnerability Assessments</p> | <p>Does the law require climate risk and vulnerability assessments? Does the law require the publication of those assessments? Does the law require periodic updates of risk and vulnerability assessments in line with new evidence and science?</p> <ul style="list-style-type: none"> • The United Kingdom's law requires five-year risk assessments and adaptation plans, as well as provides for an independent evaluation of risk assessments and plans. • France has legislation on mandatory climate change–related reporting for asset owners and asset managers. |
|  <p>4 Climate Change Strategies and Plans</p> | <p>Does the law mandate the preparation of decarbonization and adaptation strategies and plans? Does the law provide for integration of strategies and plans in existing national planning instruments, such as development plans, sectoral plans, and the annual budget process?</p> <ul style="list-style-type: none"> • Ireland's law requires preparation of a national mitigation plan to 2050, to be updated every five years, and based on national consultation. • Kenya's law mandates the cabinet secretary to formulate a National Climate Change Action Plan, to be updated every five years, with implementation review conducted every two years. |
|  <p>5 Policy Instruments</p> | <p>Does the law mandate the development of decarbonization policy instruments (for example, carbon pricing, information, regulation, public spending, and fiscal actions)? Does the law mandate the development of adaptation policy instruments (for example, information, regulation, public spending, and fiscal actions)? Is it clear who is required to prepare each of the decarbonization and adaptation policy instruments and by when?</p> <ul style="list-style-type: none"> • Mexico's law authorizes the government to introduce a carbon tax and emissions trading scheme. France's law includes a carbon tax and CO2 emission performance standards. • The United Kingdom's law focuses on the processes to determine and deliver policies (that is, carbon budgets) rather than prescribing specific policy instruments up-front. The government is mandated to outline the key policies in its report on the proposed actions to meet the carbon budget. |
|  <p>6 Independent Expert Advice</p> | <p>Does the law ensure that the government has access to independent expert advice? Does the expert advice cover both decarbonization and adaptation? Is expert advice required in processes of target setting, policy development, and evaluation? Is the government required to respond to the advice?</p> <ul style="list-style-type: none"> • Laws establish the United Kingdom's Climate Change Committee, Ireland's Advisory Council, Mexico's Consultative Council on Climate Change and the National Institute of Ecology and Climate Change, and France's Expert Committee for Energy Transition. Regulation creates Costa Rica's Scientific Council on Climate Change. |

| ELEMENT | QUESTIONS AND EXAMPLES |
|--|--|
|  <p>7 Coordination Mechanism</p> | <p>Does the law authorize a body to coordinate the government's response to climate change? Are both decarbonization and adaptation covered? Does a senior authority lead the coordination body? Are subnational governments included?</p> <ul style="list-style-type: none"> • Colombia's framework law on climate change establishes an Inter-sectoral Commission on Climate Change. Kenya's law establishes a National Climate Change Council, chaired by the president. Mexico's law designates an Inter-Ministerial Commission on Climate Change (CICC) as a coordination mechanism among federal ministries, while a Consultative Council on Climate Change provides for participation of state governments, associations of municipal governments, and representatives of the Mexican Congress. • Bulgaria's Climate Change Mitigation Act authorizes the minister of environment and water to lead coordination of climate action, with ministers in the cabinet serving as a coordination entity. |
|  <p>8 Stakeholder Engagement</p> | <p>Does the law create a mechanism for engagement with the private sector, civil society organizations and the public? Is there a clear mandate, objective, and structure, and is participation inclusive? Are both decarbonization and adaptation covered? Does the law require public engagement on the formulation and implementation of key policies and plans, as well as the review of monitoring reports?</p> <ul style="list-style-type: none"> • Laws establish the Citizens' Assembly on Climate Change in Ireland and Colombia's National Council for Climate Change. Costa Rica's Citizen Advisory Council and Citizen Consultative Council on Climate Change are created by decree. Peru's law provides for the participation of indigenous stakeholders. |
|  <p>9 Subnational Government</p> | <p>Does the law require subnational governments to set targets, prepare plans, and report on implementation? Does the framework law provide the means and incentives to decarbonize and adapt?</p> <ul style="list-style-type: none"> • Mexico's law mandates states and municipalities to develop local decarbonization and adaptation programs. Colombia's law requires regional, municipal, and district authorities to incorporate climate change management into their development and land management plans. |
|  <p>10 Financing Implementation</p> | <p>Does the law require the national government to address climate change risks and policy objectives in the preparation of its public financial management instruments? Does the law require the publication of information on public finances and climate?</p> <ul style="list-style-type: none"> • Laws in France, Germany, and Sweden connect the climate policy cycle with the annual budget process. Bangladesh's, Kenya's, and Mexico's laws establish climate change funds for attracting and channeling public, private, national, and international finance. |
|  <p>11 Measurement, Reporting, and Verification</p> | <p>Does the law define the information to be collected, empower government collection, and require periodic reporting and assessment of progress and public access to the information?</p> <ul style="list-style-type: none"> • Mexico's law mandates the development of a registry, methodologies, and the system for monitoring, reporting, and verification of emissions, and provides for an annual national report on climate change. Mexico's law also mandates evaluation of the national climate policy at least every two years. |
|  <p>12 Oversight</p> | <p>Does the law provide for parliamentary oversight of executive actions (and inactions) on climate, and is the executive required to table progress reports in the parliament? Does oversight and accountability include both decarbonization and adaptation? Are there provisions for regular independent assessments of progress on implementation of the law?</p> <ul style="list-style-type: none"> o Colombia's law requires the president to present to Congress a consolidated report on the country's progress in complying with its Nationally Determined Contribution (NDC) under the Paris Agreement a year before the report is due to the UN Framework Convention on Climate Change (UNFCCC). The United Kingdom's law requires the secretary of state to report to Parliament annually on emissions, including a response to the independent scientific advisory body's assessment on the status of implementation and further progress needed. |

Source: Adapted with permission from Averchenkova 2019.





Introduction

More than 30 countries and one regional bloc (the European Union) have adopted framework legislation to tackle climate change.² Climate change framework legislation is an overarching, multisectoral regulatory instrument that lays down general principles and defines the institutional framework for climate change policy and implementation. Such legislation typically sets national long-term decarbonization and adaptation objectives and establishes the institutions and processes needed to meet those objectives (World Bank 2015). Although having a comprehensive law that addresses both decarbonization and adaptation has some benefits, some countries have addressed these two areas through separate legislation. Specific policy measures are usually defined in subsidiary regulatory instruments such as sector-specific laws.

This Reference Guide to Climate Change Framework Legislation is intended to help stakeholders design effective and comprehensive laws. The guide is primarily aimed at institutions at the center of government—presidencies, prime ministers' offices, and ministries of planning and finance—which play a leadership role in policy issues that require a whole-of-government response, such as climate change. The guide is also aimed at specialized climate change and environmental agencies that play an important role in sponsoring climate change legislation and policy. Finally, the guide will be useful to legislators as well as the civil society organizations that engage with government and the legislature in the design and implementation of climate change policy.

The guide can be used to stimulate discussion during the process of drafting climate change framework legislation. The guide does not present a model law.³ Every country has its own environmental, economic, social, legal, and institutional context that has to be considered in the design of any framework law. Framework legislation should avoid overlapping with existing legislation, creating ambiguity, notably in areas such as public finance, disaster risk management, and intergovernmental relations. Decision makers will need to consider whether a new framework law or revision of existing laws, or a combination of those, will be more effective in developing institutional mandates.

The reference guide identifies 12 key elements of effective climate change framework legislation. The summary sheet sets out guiding questions for each element and summarizes country examples. The text below explains the rationale for each element, lays out the design considerations, and provides country examples in boxes. Readers should consider the relevance of country examples in the context of their own countries. The key elements are interdependent and not sequential: the guide does not prescribe a specific process or order for addressing the elements.

2. Much of the country climate legislation, policies, strategies, and similar documents are in the Climate Change Laws of the World database (<https://climate-laws.org/>), of the Grantham Research Institute on Climate Change and the Environment and the Centre for Climate Change Economics and Policy, London School of Economics and Political Science. Some of these are comprehensive acts that address adaptation and mitigation, while others focus only on one of these. In some cases, nonlegislative instruments have been referenced in the guide to include a broader sample of examples from developing countries where climate change framework legislation is a rarer, though growing, practice.
3. Other relevant sources policy makers can refer to include the Law and Climate Change Toolkit, a global resource to develop legal frameworks for implementation of the Paris Agreement and nationally determined contributions (<https://climatelawtoolkit.org/>); the Model Law for implementing nationally determined contributions (<https://www.eli.org/climate-energy/eli-model-law-implementing-nationally-determined-contributions>); and the Climate Policy Database, with information on mitigation policies worldwide (http://climatepolicydatabase.org/index.php/Climate_Policy_Database).





Rationale and Scope of Climate Change Framework Legislation

Framework legislation supports the achievement of national decarbonization and adaptation goals. Decarbonization is the process of reducing net carbon dioxide emissions to zero. The term is used in this guide in place of *mitigation*, the term that appears in much domestic legislation and the Paris Agreement, because *decarbonization* better captures the policy objective. Decarbonization requires proactive policies to restructure economic activity and reorganize land use along four fronts: decarbonization of energy sources, electrification, increased energy efficiency, and preservation and increased use of natural carbon sinks. All countries, developed and developing, will need to decarbonize their economies if they are to deliver sustainable, resilient, and inclusive growth. Adaptation is action to prevent or minimize adverse impacts of climate change by strengthening the resilience of households, businesses, and the public sector and their ability to take advantage of opportunities that may arise. All countries, developed and developing, will need to adapt to respond to the significant impacts of climate change.

Framework legislation sets the long-term direction of climate strategy, providing a credible commitment to the continuity of climate objectives across political mandates.⁴ Decarbonization and adaptation require investments with long lead times, extending well beyond electoral mandates. Households and businesses will need to be confident that policies will remain stable over many years if they are to invest in and change their behavior in line with national climate change objectives. Legislation strengthens countries' commitment to policy continuity because it is more difficult to change than executive policy instruments such as decrees, regulations, plans, and strategies. Legislation can be enforced through judicial and other forms of review. The legislative process entails broad stakeholder engagement, deliberation, and debate, which can help build long-term commitment. In many countries, climate change framework legislation is aligned with commitments laid out in the context of the Paris Agreement.

4. For more on this topic see Averchenkova 2019; Averchenkova, Fankhauser and Finnegan 2020; Duwe et al. 2017; Fisher 2017; Iacobuta et al. 2018; Lockwood 2013; Nash and Steuer 2019; Scottford and Minas 2019.

Climate change framework legislation and the COVID crisis

The COVID-19 pandemic has disrupted lives around the globe and shaken economic systems. As governments rush to respond to the crisis, there is a risk that longer-term issues, such as climate change, will lose political support and funding. Climate change framework legislation protects policies from abrupt shifts in priorities when crises arise and guides the crisis response and the design of policies for a sustainable recovery.

Framework legislation guides the behavior of markets in line with national climate change objectives.

Efficient markets are those that encourage businesses and households to adapt their economic activities to reflect the economic and social costs of activities and exposure to risks, such as those that contribute to climate change. For example, efficient markets invest in low-carbon, energy-efficient technologies and methods of production, distribution, and consumption. The public sector can improve market efficiency by providing information, regulating economic activities, creating tax incentives, and changing public spending priorities. Carbon pricing, introduced through carbon taxes or greenhouse gas (GHG) emission trading schemes, is an effective tool for influencing the behavior of businesses, households, and the public sector because it increases the market price of goods and services in proportion to the GHG emissions used to produce and deliver them. In order to deliver progressively deeper cuts in emissions, businesses, households, and public entities should expect carbon prices to increase over time. The credibility of long-term increases in the price of carbon is undermined when pricing policies are reversed. Framework legislation can protect carbon pricing instruments against such reversals and set expectations for long-term increases in carbon prices that result in decarbonization.

Framework legislation lays out the institutional arrangements for the formulation and implementation of

climate change policy. It defines the competencies of public institutions and sets out structures for the integration of climate change in the policy-making process. An effective framework law will describe and assign the governance functions related to climate change. It will promote collaboration and avoid ambiguous and overlapping institutional mandates. In some countries, climate change framework legislation adds to the mandates of existing institutions. In others, the framework legislation creates new institutions as part of an integrated system. In most countries, new institutions are required to cover the expert advice, coordination, and consultation functions (elements 6, 7, and 8). Framework legislation will establish timelines for these institutions to be put in place and comply with their mandates.

Framework legislation ensures an appropriate balance between predictability and flexibility.

Legislation must ensure continuity if it is to represent a credible commitment to national climate change objectives. At the same time, countries need to ensure flexibility in the design of policy instruments to accommodate changing circumstances—new scientific evidence, technological change, and international agreements—and progress in implementation. Such adjustments should not reopen debate on long-term targets. This balance is achieved through design elements described in this guide such as long-term targets, expert advice, monitoring and reporting, and oversight (elements 1, 6, 11, and 12).

Examples of institutional frameworks for climate change

Mexico's General Law on Climate Change of 2012 establishes the National System on Climate Change (SINACC). This system includes the Inter-Ministerial Commission on Climate Change, the Consultative Council on Climate Change, and the National Institute of Ecology and Climate Change. SINACC provides for the participation of state governments, associations of municipal governments, and representatives of the Mexican Congress. The law establishes the Coordination for Evaluation to assess the impact of national climate change policy. Further work is needed to clarify institutional mandates and provide guidance to sectoral ministries (Averchenkova and Guzman Luna 2018).

Peru's Framework Law on Climate Change of 2018 establishes an institutional framework for a coordinated response to climate change, including definition of the mandates of the Ministry of Environment, sectoral agencies, and regional and local authorities; establishment of a High Level Commission on Climate Change to propose policy measures; and creation of the National Climate Change Commission to monitor implementation.

In the United Kingdom, the key governmental institutions responsible for dealing with climate change had been established prior to the adoption of the Climate Change Act of 2008. The role of the Act was to define the overall duties and powers of the government with respect to climate policy, establish an independent advisory body (the Climate Change Committee, or CCC), and clarify the mandates of key agencies, including the ministries in charge of climate policy, devolved administrations, and the CCC. The law mandates existing institutions; the Department Business, Energy, and Industrial Strategy; and the Department for Environment, Food and Rural Affairs to coordinate climate change mitigation and adaptation (respectively).

This guide establishes 12 elements to assess the scope of proposed climate change framework legislation.

Two of these elements cover the definition of *strategic objectives* for climate change policy through national-level long-term targets (element 1) and the translation of these long-term targets into intermediate and sectoral targets (element 2). Four of the 12 elements cover the institutions and processes for *policy development*, namely risk assessments, strategic planning, and policy instruments (elements 3, 4, and 5) and the provision of independent expert advice (element 6). Four elements

cover functions related to *policy implementation*, namely mechanisms for horizontal and vertical coordination among the key government agencies (element 7), engagement with stakeholders outside of government (element 8), enhancing the role of subnational levels of government (element 9), and financing implementation of the law (element 10). The final two elements put in place arrangements for *policy evaluation and enforcement*, namely measurement, review, and verification (element 11) and oversight (element 12).





Elements

Element 1: Long-Term Targets

Climate change framework legislation should establish long-term targets that set the strategic direction of a country's efforts to decarbonize and adapt to climate change.

Achievement of decarbonization and adaptation goals requires huge structural changes in economic activity that will take place over decades. Long-term targets allow policy makers and planners to identify the decarbonization and adaptation pathways that are most compatible with a country's development goals. Long-term targets signal the direction, pace, and extent of structural change needed to achieve climate change goals and guide the response of the public sector, businesses, and households. Presentation of long-term targets in framework legislation helps ensure continuity and commitment to ambitious goals.

Decarbonization— Emissions reduction target for 2050 and a net zero target

Framework legislation should set country decarbonization targets for 2050 and a net zero target that are aligned with—or more ambitious than—the country's commitments under the Paris Agreement. The Paris Agreement's goals are to keep global warming below 1.5–2°C, with all economies reaching peak emissions and declining as soon as possible, to achieve global net zero emissions in the second half of the century (Article 2 of the Paris Agreement, UNFCCC, 2015).⁵ The Paris Agreement requires developed countries to continue taking the lead by adhering to economywide absolute emissions reduction targets expressed as a reduction below the level in a specified base year. Developing countries are encouraged to move, over time, toward economywide emissions reduction or limitation targets, in light of different national circumstances. Some developing countries have set absolute targets, while others express targets in relative terms. Relative targets include emissions reduction below a business as usual level as well as intensity targets, with reductions in GHG emissions expressed per unit of gross domestic product or per capita. Absolute emission targets provide greater clarity on the intended outcome and the direction of travel. They are also easier to monitor than most relative targets.

The 2050 and net zero targets should be informed by the latest scientific data on the level of effort required at the global level, national emissions reduction scenarios, and domestic capabilities and opportunities to achieve deep decarbonization. The choice of the base year and targets should be sufficiently ambitious to stimulate structural change and decarbonization. Independent expert advice (see element 6) can support the government in determining the appropriate long-term target.

5. According to the Intergovernmental Panel on Climate Change (IPCC), in scenarios with no or limited temperature overshoot above 1.5°C, global net anthropogenic CO₂ emissions should reach net zero by around 2050, while total GHG emissions reach net zero between 2063 and 2068 (IPCC 2018).

Net zero emission targets

Some countries have established the time frame for achieving net zero emissions in law, including [Sweden](#) by 2045; and [Denmark](#), [France](#), [Germany](#), [New Zealand](#) (for all greenhouse gases except biogenic methane), [Norway](#), and the [United Kingdom](#) by 2050. Chile and Spain, as well as the European Union as a whole, have provisions for net zero targets in their draft climate and energy transition laws. Other countries have net zero targets established in executive acts, including Finland by 2035 and [Costa Rica](#), [Fiji](#), [Marshall Islands](#), and [Portugal](#) by 2050.

Adaptation targets

Countries should consider defining national long-term objectives for adaptation through their climate change framework legislation. The Paris Agreement sets a qualitative global goal of enhancing adaptive capacity, strengthening resilience, and reducing vulnerability to climate change. Countries have defined a national long-term goal or vision for

adaptation that is aspirational, qualitative, or quantitative or a combination of all three.⁶ Quantifiable targets tend to focus on specific policy areas or adaptation in particular sectors, such as disaster risk management, coastal protection, flood-proofing, land preservation, water management, and climate-resilient buildings and infrastructure.

Adaptation targets

[Kenya's](#) Climate Change Act of 2016 sets open-ended objectives for building resilience and enhancing adaptive capacity; formulating programs and plans to enhance the resilience and adaptive capacity of human and ecological systems; and mainstreaming and reinforcing disaster risk reduction within strategies and actions of public and private entities.

[Mexico's](#) General Law on Climate Change establishes a long-term objective of reducing the vulnerability of the country's population and ecosystems to the adverse effects of climate change, as well as creating and strengthening national capacities to respond to climate threats.

[Singapore](#) has legislated a long-term adaptation target of a 10-fold increase in desalination capacity to meet 30 percent of long-term water needs by 2060.

6. UNEP (2018) Adaptation Gap Report 2018. United Nations Environment Programme, Nairobi, Kenya.



Element 2: Intermediate and Sectoral Targets

Intermediate and sectoral targets guide implementation in line with national long-term targets. Intermediate targets serve as milestones, helping policy makers and planners keep decarbonization and adaptation strategies on track. Sectoral targets break down the contribution of economic sectors and actors to the achievement of national targets. Countries may set intermediate and sectoral targets in framework legislation itself or specify the mechanism by which these targets will be set at a future date through subsidiary legislation or regulation.

Intermediate targets

Framework legislation should provide for intermediate targets that are consistent with the achievement of 2050 emissions reduction, net zero, and adaptation targets.

The intermediate targets will determine the trajectory toward long-term goals. Trajectories can front-load decarbonization in earlier years or back-load it closer to 2050. The choice of trajectory will depend on the relative costs and benefits of different strategies. Front-loaded intermediate targets send a signal of commitment and allow stakeholders to plan a phased, orderly approach to decarbonization and adaptation over an extended period. However, front-loaded intermediate targets will tend to bring forward the costs of decarbonization and adaptation.

The Paris Agreement establishes a five-year cycle of increased ambition in emissions reduction—the “ratchet”—and a periodic stocktaking to assess global progress. For the second round of NDC submissions due in 2020, countries were requested to formulate 2030 emission targets, setting a new emission objective if the previous

NDC contained a target for 2025, and an updated and more ambitious target if the previous one was for 2030. Midterm targets set in national legislation should be consistent with, or more ambitious than, those communicated in the country's NDC. Some climate legislation prohibits future reductions in ambition.

Carbon budgets can be used to translate long-term targets into intermediate emissions reduction targets. A carbon budget sets the total quantity of greenhouse gases that can be emitted over a specified time frame. The carbon budget is progressively reduced in each period to ultimately reach the 2050 emissions reduction and net zero targets. First implemented through the United Kingdom's Climate Change Act, carbon budgets have subsequently been used in climate and energy transition legislation in Scotland, France, and New Zealand. Carbon budgets allow countries to monitor their progress toward long-term targets. Future carbon budgets can be reduced to compensate when an economy fails to meet its intermediate target.

Long-term adaptation objectives also should be broken into intermediate targets. These intermediate targets may be defined in terms of enhanced adaptive capacity, strengthened resilience, and reduced vulnerability. Intermediate targets enable stakeholders to track progress toward long-term goals and make periodic course adjustments. The targets should be in line with the latest global and national climate change risk assessments (which should be reviewed at least every five years) and adjusted accordingly.

Intermediate emissions reduction targets

The 2030 emissions reduction targets established in law vary in their form and ambition. [Mexico](#) has set target reductions 22 to 36 percent below business as usual; [Denmark](#) has established an absolute emissions reduction of 70 percent below 1990 levels by 2030.

Rather than specifying midterm targets, the [United Kingdom's](#) Climate Change Act establishes a statutory process for setting five-year carbon budgets guided by a net zero 2050 target defined in the legislation (updated in 2019 from 80 percent below 1990 levels). Each carbon budget determines GHG emissions allowed within a five-year period and is set 12 years in advance by the government, based on the advice of an independent body (the Climate Change Committee) and approved by Parliament. Setting carbon budgets 12 years in advance orients the targets toward long-term objectives, rather than short-term political priorities, and allows enough time for the private and public sectors to plan compatible investments. This mechanism has proved an effective way to plan decarbonization.

[France](#) has also introduced a carbon budget approach in its Energy Transition Law of 2015 and the Energy and Climate Bill of 2019. The budgets are set for 5, 10, and 15 years in advance. Germany on the other hand breaks down its national emissions pathway to 2030 into annual objectives for its main economic sectors.

[Mexico's](#) General Law on Climate Change does not adopt a concrete mechanism for intermediate emissions targets but specifies that future amendments to emissions targets should be toward greater ambition.

Intermediate adaptation targets

[Tonga's](#) legislation establishes an adaptation target for all coastal communities to be protected by 2035.

[Vietnam's](#) law set a public awareness target—that over 10 percent of the population and over 65 percent of public employees and servants would understand climate change and its impacts by 2010. Through executive regulation it further sets an objective for at least 90 percent of socioeconomic development plans to have integrated disaster risk management and climate change adaptation by 2030.

Sectoral targets

Framework legislation should provide guidance on the contribution of key sectors to decarbonization and adaptation targets. Some countries include specific sector emissions reduction targets in their framework legislation (France, Germany, and Mexico). In other countries, framework legislation mandates sectoral ministries to develop specific decarbonization and adaptation targets or requires sectoral adaptation targets to be set in subsidiary legislation (Samoa, Tonga, and Vietnam). The choice of approach will depend on political economy considerations. Agreement on the division of effort among sectors can be contentious, given that decarbonization and adaptation will entail costs as well as benefits. Adoption of the framework legislation and the national

long-term target may be expedited by deferring sectoral targets to subsequent legislation or other policy documents. This approach also allows greater flexibility in determining how best to achieve intermediate and long-term targets, adjusting the level of ambition for each sector to take into account changing circumstances and technological innovation. Where sectoral targets are deferred to subsequent or subordinate legislation, framework legislation should lay out a transparent process for stakeholders to arrive at sectoral targets, with deadlines and enforcement mechanisms to ensure compliance. Legislation regarding sectoral targets should clarify the role of regulatory and supervisory institutions in setting and monitoring these targets.

Sectoral targets for decarbonization and adaptation

[France's](#) Energy Transition Law sets a range of specific targets for the energy sector, such as increasing the share of renewable energy and reducing the share of nuclear and fossil fuel energy, as well as targets for deployment of hydrogen. This increased policy certainty took more than 150 hours of parliamentary debate and 5,000 amendments (Rüdinger 2018).

The [United Kingdom](#) adopted a flexible approach by putting into law the institutional infrastructure and mechanism for getting to a long-term target through the system of carbon budgets (discussed above), rather than specifying targets for each five-year period and sector upfront. The framework law also mandates a UK-wide climate change risk assessment, followed by adaptation plans every five years.

[Germany](#) breaks down its 2030 national emissions pathway into annual objectives for the main economic sectors. The law assigns responsibility (with some flexibility) for achieving these annual emission budgets to the respective ministries. Progress is reported by sector, and gaps can trigger short-term action plans for additional reductions.

[Samoa's](#) development strategy of 2016 requires that 100 percent of its new buildings be climate resilient by 2020.



Element 3: Risk and Vulnerability Assessments

Framework legislation should require the government to publish information on climate-related physical risks and vulnerabilities. Physical risks arise from changes in agroclimatic zones and ecosystems and the frequency and intensity of extreme weather events. Climate forecasts and models can assess physical risks and their temporal and spatial impacts. Vulnerability assessments explore the social and economic impacts of climate change. Governments are well placed to consolidate and communicate this information, drawing on the work of scientific research and specialized technical institutions, such as meteorological, agricultural, forestry, and land use planning services. Communicating information on physical risks and vulnerabilities to public entities, households, and businesses helps them make informed decisions about how to deal with future climate change impacts and to take these risks into account in their decision making. Framework legislation can require periodic updates of risk and vulnerability assessments in line with science and other evidence. Framework legislation may require public entities to prepare territorial or sectoral risk and vulnerability assessments as part of the planning process.

Policy makers should consider the strengths and weaknesses of established risk assessment processes and institutions before introducing changes and should ensure consistency across framework and specialized legislation.

Framework legislation can require government, businesses, and financial institutions to publish information on economic risks related to climate change and decarbonization. This requires an assessment of both the physical risks of climate change and the transition risks of decarbonization. Transition risks arise as a result of changes in technology, regulation, and market conditions as economies decarbonize. Exposure to physical and transition risks will have a significant impact on the value of assets. Access to information about these risks will help markets reflect their actual costs in asset prices. Economies can then allocate public resources and funding more efficiently by taking their climate change risk exposure into account. The Financial Stability Board Task Force on Climate-Related Financial Disclosures (TCFD) has published recommendations for disclosure of these climate-related risks.

Risk Assessment

The [United Kingdom's](#) Climate Change Act of 2008 mandates the government to produce a comprehensive, UK-wide climate change risk assessment every five years, which is to be followed by a set of national adaptation plans.

In 2012, [Colombia's](#) Law 1523 created the National Policy and System of Risk Management, with the objective of identifying, monitoring, and analyzing risks related to climate change; preparing measures to address emergency situations; establishing relevant financial instruments; and developing a comprehensive communication and stakeholder engagement system. This law preceded the adoption of climate change framework legislation, Law 1931, in 2018. The climate change framework law specifies that the national and territorial risk management plans required under Law 1523 should incorporate actions to foster knowledge generation and reduce risk and vulnerability to climate change. It also mandates the government to develop guidelines for disaster risk management plans.

In 2015, France introduced legislation on mandatory climate change–related reporting for asset owners and asset managers. In 2016, the Dutch central bank DNB announced that it was taking steps to monitor and mitigate climate risk. In 2019, Spain included mandatory climate-related risk disclosure in the draft text of its proposed Energy and Climate transition law. In 2019, the [European Commission](#) adopted Disclosure Regulation EU/2019/2088, which sets out rules for financial firms and advisers to report on sustainability risks and adverse sustainability impacts. A proposed regulation on creating a framework to facilitate sustainable investment, the Taxonomy Regulation, will establish an EU-wide framework for identifying environmentally sustainable economic activities. Member States will apply the regulation in public measures, standards, and labels for financial products or corporate bonds.



Element 4: Climate Change Strategies and Plans

Framework legislation should require public institutions to prepare climate change strategies and plans to achieve long-term, intermediate, and sectoral targets. National and sectoral strategies and plans guide implementation and encompass adaptation and decarbonization. They lay out the policy measures that public institutions will undertake, and they allocate resources, set targets, and assign responsibility for the achievement of those targets. In some cases, adaptation and decarbonization objectives are to be addressed through distinct, specialized planning instruments. In some framework legislation, adaptation and decarbonization are integrated within the same planning instruments. Strategies and plans may have various time horizons, such as long-term plans that are aligned with intermediate and long-term climate change targets; development plans for a period of five to 10 years; and plans aligned with government electoral mandates. The scope of strategies and plans also differs, encompassing (a) economywide plans that set the broad direction for government policy across all sectors and across the national territory usually led by central government planning or finance

agencies; (b) sector-specific plans usually led by sectoral ministries; and (c) territorial plans prepared by subnational administrations.

Framework legislation can mandate that stand-alone climate change strategies and plans be developed or require integration into existing national strategies and plans. Some countries mandate in their framework legislation that sectoral ministries must develop specific decarbonization and adaptation plans (Colombia, Kenya, and the United Kingdom). Although dedicated climate change strategies and plans allow institutions to address policy issues in detail, there is a risk that such instruments will be too abstract and fail to take into account other, potentially competing, national and regional development objectives. Effective implementation of climate change strategies and plans requires that the institutions integrate climate change policy in routine planning instruments, such as development plans, sector plans, and the annual budget process. Framework legislation can mandate the integration of climate change policy in these instruments.

Strategies and plans

[Colombia's](#) law mandates each sectoral ministry to prepare comprehensive sectoral climate change management plans to identify, evaluate, and guide the incorporation of climate change actions in the policies and regulations of the respective sectors. It also mandates measures at the territorial level (regional and territorial development plans) and in the national communications, national inventories, and biennial update reports.

[Kenya's](#) Climate Change Act of 2016 mandates the cabinet secretary to formulate a National Climate Change Action Plan, to be updated every five years, with an implementation review conducted every two years. In addition, the law empowers the coordination body, the National Climate Change Council, to impose climate change obligations on private entities and stipulates investigation, monitoring, and enforcement powers.

In [Mexico](#), adaptation provisions were strengthened in 2018 through the amendment to the General Law on Climate Change mandating adaptation planning and a government review of adaptation strategy every six years.

Framework legislation can mandate institutions to build capacity for planning their response to climate change.

Countries recognize that institutions and key stakeholders lack

the information and experience needed to respond to climate change. Capacity building includes investments in training for public officials, educational programs, and research.

Capacity building

[Kenya's](#) Climate Change Act requires the cabinet secretary to establish accredited training programs on climate change. The act also provides for research on climate change, and the collation and dissemination of information to the national and county governments, the public, and other stakeholders.

[Mexico's](#) law mandates a process for the development of technical and institutional capacities and measures to promote training, education, access to information, and communication among the population.

[Bulgaria's](#) Climate Change Mitigation Act states that revenues generated from the sale and exchange of assigned amount units by the Bulgarian government can be used to finance educational measures, research, and administrative capacity.

[India](#) and [South Africa](#), through their Disaster Management Acts, mandate training and capacity-building initiatives to provide appropriate staff and agencies with necessary capabilities.



Element 5: Policy Instruments

Framework legislation authorizes public institutions to use policy instruments—information, regulation, taxation, and public spending—in support of national climate change goals. Some climate change framework laws establish policy instruments in the law itself (France) or list specific measures to be adopted (Mexico's and Spain's draft law). Others require the government to establish the policy instruments through subsequent legislation or regulation and set timelines for this to be done (United Kingdom). Specification of policy instruments in the framework legislation offers greater certainty regarding the means by which the long-term targets will be achieved. If this approach is followed, framework legislation should provide for flexibility in the adjustment of policy instruments to meet changing needs and developments in technology, without reopening debates that would allow backsliding on the targets. Deferring the detailed design of policy instruments to specialized legislation and regulations allows greater flexibility in choosing policy instruments to achieve the objectives of the legislation. Complementary legislation may also be necessary for specific sectors, such as finance, agriculture, transportation, energy, urban development, and industry, or to integrate climate change considerations in policy, planning, and budgeting functions and routines.

Policy instruments for decarbonization

Framework legislation may identify the principal policy instruments that will be used to achieve intermediate and long-term emissions reduction and net zero targets.⁷

These policy instruments will typically include a combination of the following:

- **Carbon pricing** incorporates the social cost of GHG emissions generated during the production, delivery, and disposal of goods and services into the prices that consumers pay. It does that by eliminating fossil fuel subsidies and introducing carbon taxes, emissions trading systems, charges, and rebates that reward emissions reductions and penalize emissions. Carbon pricing is the most effective tool (though rarely enough alone) to promote decarbonization because public entities, businesses, and households will drive changes in production, distribution, and consumption as they seek to increase efficiency.
- **Information** measures can raise awareness and the capability of public entities, households, and businesses to

reduce emissions and decarbonize processes. Instruments can include access to information about government decarbonization policies and programs, access to scientific and technological information, communication campaigns, and interventions to promote behavioral change.

- **Regulation** encompasses rules, standards, and enforcement arrangements that limit and guide the activities of households, businesses, and public entities in line with decarbonization objectives, such as the following: energy efficiency and fuel source standards; energy pricing and tariffs; land use zoning, planning, and regulation; regulation of markets for natural assets—water, land, and forests—to ensure that they consider the value of ecosystem services these assets provide; reporting standards for GHG emissions and exposure to GHG-related risks in credit risk rating and stress tests; and use of financial products such as green bonds.
- **Programs** can support emissions reductions through public spending, including public infrastructure investments that reduce emissions and increase sequestration of GHGs (such as electrification of public transport and reforestation); transfers and subsidies that support emissions reduction activities; and investment in emissions reductions by households, businesses, and public entities, such as grants to households to finance home energy efficiency improvements and renewable energy technologies.
- **Fiscal measures** that promote emissions reductions include tax expenditures; provisions that reduce tax liability through exclusion, exemption, deduction, credit, preferential tax rates, or deferral of liability (such as lower VAT rates for energy efficient lightbulbs); and feebates (such as charges levied on vehicles using fossil fuels and exemptions for electric vehicles).
- **Fiscal management** practices can align resource allocation across the public sector with emissions reduction and net zero targets. Practices include climate budgeting, reporting on public expenditures that positively and adversely affect climate change objectives, assessment of fiscal risks related to decarbonization, and climate-informed management of public investment, including the use of shadow pricing of carbon during appraisal of public investments.

7. Based on World Bank 2015; also see the Climate Policy Database, http://climatepolicydatabase.org/index.php?title=Database_structure_and_data_categorisation.

Decarbonization policy instruments

[France's](#) framework Energy Transition Law of 2015 includes a carbon tax and CO2 performance standards, and Spain's draft climate and energy transition law lists specific measures to be adopted (for example, 2040 ban on certain combustion engine vehicles and e-mobility infrastructure obligations for fuel suppliers).

[Mexico's](#) law authorizes the government to introduce a carbon tax and emissions trading scheme (without specifying the details).

In the [United Kingdom](#), the Climate Change Act of 2008 focuses on the processes to determine and deliver policies through carbon budgets rather than prescribing a particular policy instrument. The government is required by law to outline the key policies in its report on the proposed actions to meet the carbon budget. The law's main provision on policy instruments gives the national agencies the power to regulate emissions trading schemes and to introduce financial incentive schemes for waste, without specifying what these should be.

[Kenya's](#) Climate Change Act of 2016 empowers the coordination body, the National Climate Change Council, to impose climate change obligations on private entities and stipulates investigation, monitoring, and enforcement powers.

Policy instruments for adaptation

Framework legislation may identify the principal policy instruments that will be used to achieve intermediate and long-term adaptation targets.⁸ Policy instruments will strengthen the resilience of public entities, households, and businesses to current and future climate change. These instruments typically include a combination of the following measures:

- **Information** measures are used to raise awareness and the capability of public agencies, households, and businesses to adapt to climate change. They may include access to information on government climate risk and vulnerability assessments, access to scientific and technological information, communication campaigns, and interventions to promote behavioral change.
- **Regulation** encompasses rules, standards, and enforcement arrangements that limit and guide the activities of public agencies, households, and businesses to help them adapt to climate change. Instruments include building codes, land use zoning, and spatial planning regulations that are aligned with assessments of physical risks, and regulation of financial products (such as insurance) and markets to ensure that physical risks are reflected in pricing.
- **Programs** can use public spending to reduce vulnerability and increase resilience of households, businesses, and public agencies, such as the following: public investments in land and water management (such as protected areas and flood and drought management infrastructure); services that raise awareness and provide access to information (such as agricultural extension services); subsidies for households, businesses, and public entities (such as subsidies to promote reforestation, removal of

households and businesses from vulnerable locations, and use of insurance products); and fund transfers to households to provide a safety net for the most vulnerable.

- **Fiscal measures** to promote actions by businesses and households that reduce their vulnerability can include tax expenditures and provisions that reduce tax liability through exclusion, exemption, deduction, credit, preferential tax rates, or deferral of liability (such as tax benefits for businesses that relocate from vulnerable areas and for reforestation and protection of privately owned woodlands).
- **Fiscal management** practices that reduce vulnerability align resource allocation across the public sector with resilience objectives, including the following: climate budgeting, reporting on public expenditures that are aligned and adversely affect climate change objectives, systematic assessment of macrofiscal risks related to extreme weather events and long-term environmental change, and the application of climate vulnerability assessments in the design and appraisal of all programs and projects.

Framework legislation will typically complement specialized legislation or regulations for disaster risk management and disaster response. In many countries, legislation on disaster risk management precedes the adoption of framework legislation. Framework legislation can later integrate disaster risk management provisions in the overall climate change architecture (as in Colombia). Disaster risk management requires specific institutional arrangements and policy instruments that are best addressed in specialized legislation.

8. For more information on adaptation policy and legislation see Olhoff et al. 2018; Mehryar and Surminski 2020.



Adaptation policy instruments

The [United Kingdom's](#) Climate Change Act of 2008 includes an overarching adaptation framework that establishes a process of information generation and adaptation planning. The law mandates the government to produce a comprehensive, UK-wide climate change risk assessment every five years, which is to be followed by a set of national adaptation plans. Progress on preparedness for climate change is evaluated biannually by an independent advisory body, the Climate Change Committee, which has a dedicated adaptation subcommittee.

The [Philippines'](#) Climate Change Act of 2009 recognizes the country's vulnerability to climate change and the need for adaptation. The act creates a comprehensive framework for integrating climate change with disaster risk reduction in policy formulation, development plans, poverty reduction strategies, and other development tools.

In 2012, [Colombia's](#) Law 1523 created the National Policy and System of Risk Management, with the objective of identifying, monitoring, and analyzing risks related to climate change; preparing measures to address emergency situations; establishing relevant financial instruments; and developing a comprehensive communication and stakeholder engagement system. This preceded the adoption of climate change framework legislation (Law 1931), in 2018. The climate change framework law specifies that the national and territorial risk management plans required under Law 1523 should incorporate actions to foster knowledge generation and reduce risk and vulnerability to climate change. It also mandates the government to develop guidelines for disaster risk management plans.



Element 6: Independent Expert Advice

Framework legislation should establish the government's use of independent expert advice on climate change policy. While the Intergovernmental Panel on Climate Change provides a comprehensive assessment of the science of climate change and the policy response at the global level, it does not provide advice on countries' targets and policy proposals, nor does it assess countries' progress in implementation. Country-level independent expert advisers bring science, research, and evidence to the policy-making process. They can focus on the long-term objectives, enhancing credibility and reinforcing continuity of policy choices in the face of short-term partisan political priorities (Averchenkova, Fankhauser, and Finnegan 2018; Averchenkova, Fankhauser, and Finnegan 2020). This is often achieved by setting up an advisory body whose members are typically appointed by the government, or in some cases by the legislature. Experts are usually academics and technical specialists. In some cases, the advisory body may include the private sector and

civil society. Framework legislation will typically require the advisory body to review and comment on climate risks and vulnerabilities, targets, policy initiatives, and implementation reports. Climate advisory bodies may complement or work alongside existing entities, such as national risk boards, which address climate change in the context of a wider range of environmental, social, and economic risks (World Bank 2013). Advisory bodies may have a budget that allows them to play a proactive role, commissioning research and evaluations of specific policies. In some cases, framework legislation requires the government to respond to the advisory body's recommendations and comments. Ideally, the advisory body and its communications with the government are published. This strengthens the accountability of the policy process. Advisory bodies will usually draw on experts from national institutions. Where the requisite expertise is not available domestically, advisory bodies may be able to draw on experts in other countries and international institutions.

Climate change advisory bodies

In [Mexico](#), independent advice is provided through the Consultative Council on Climate Change (C3). A permanent consultative body, C3 comprises representatives from civil society, the private sector, and academia. C3 recommends studies and policies, proposes adaptation and mitigation goals, and promotes stakeholder participation. C3 does not have a designated budget and its members operate on a voluntary basis. The law designates the National Institute of Ecology and Climate Change as the entity for coordination of scientific research on climate change and the provision of technical and scientific assistance to the Ministry for the Environment.

In [Costa Rica](#), Decree No. 40615 creates the Scientific Council on Climate Change as an independent consultative body of academics, researchers, and experts to advise the government on climate science and technological development. The council is attached to the Climate Change Directorate of the Ministry of Environment and Energy and prepares reports at the request of the ministry, as well as having the authority to express itself on relevant matters.

The [UK](#) Climate Change Committee plays a critical role in maintaining political commitment to climate goals and adherence to the Climate Change Act. The committee comprises eight experts from academia, business, civil society, and politics, with an adaptation subcommittee of six members. The act requires the committee to recommend emissions reduction targets to Parliament, advise the government on setting carbon budgets, and assess progress made in meeting them. The act requires Parliament to have access to the committee's advice and obliges the government to respond to the committee's recommendations, so that government cannot ignore their advice. The committee has an effective public communications function, and its advice is regularly referred to in the media.

Element 7: Coordination Mechanism

Framework legislation should establish mechanisms to coordinate a whole-of-government response to climate change across the process of policy development, implementation, and evaluation. Coordination is required horizontally, between agencies at each level of government, and vertically, across national, regional, and local tiers of government. Coordination is achieved through the alignment of actors around long-term targets for decarbonization and adaptation (element 1); intermediate and sectoral targets (element 2); and national, regional, and sectoral strategies and plans (element 4). Institutional arrangements can support these policy and planning processes. In some cases, climate change is addressed by an existing coordination body, typically a planning committee, where climate change policy and planning are addressed alongside other development priorities. More often, framework legislation establishes a

dedicated coordination body for climate change. This body should comprise representation at a senior level (typically head of agency), so that it has the authority to direct agencies' management and marshal financial and technical resources needed for policy development, planning, implementation, and monitoring. This can best be achieved where an agency from the center of government—such as the presidency, planning, or central finance agency—chairs the coordination body. Where the coordination body is chaired by an environmental agency, the framework legislation may need to provide the agency with adequate authority over other government agencies, such as through a clearance function for strategies, plans, policies, and monitoring reports. Framework legislation will typically mandate the frequency of meetings and the participation of relevant agencies and allocate human and financial resources needed to support coordination activities.

Coordination mechanisms

Kenya's Climate Change Act 2016 established a National Climate Change Council, chaired by the president, as an overarching national climate change coordination mechanism and the lead agency in charge of climate change plans and actions. The act outlines specific duties for all state ministries, departments, and agencies; establishes a climate change directorate to lead implementation; and appoints a senior official to coordinate the mainstreaming of climate change into sectoral strategies. The council reports on implementation of climate change duties and functions each year.

Mexico's law designates the Inter-Ministerial Commission on Climate Change (CICC), chaired by the cabinet secretary, as the coordination mechanism among the federal ministries. The Consultative Council on Climate Change is the permanent consultative body of the CICC, providing for participation of state governments, associations of municipal governments, and representatives of Congress.

Bulgaria's Climate Change Mitigation Act of 2014 authorizes the Ministry of Environment and Water to lead coordination of climate action, with ministers in the cabinet serving as a coordination entity. The ministers must consult with the Ministry of Environment and Water on funding, must draft sectoral policies, and may appoint experts to assist them with their respective obligations and duties.



Element 8: Stakeholder Engagement

Framework legislation should put in place mechanisms for engagement with stakeholders outside of government, including civil society and the private sector. Stakeholder engagement should be addressed as part of the development, negotiation, and passage of framework legislation itself (as well as amendments). Framework legislation should institutionalize ongoing engagement with stakeholders to support the development of sectoral plans, policies, and instruments; monitoring of results; and identification of gaps or unintended negative consequences. Stakeholder engagement helps build a shared understanding of climate change risks and vulnerabilities, enables debate around policy options, generates information from differing perspectives, tests reactions to policy initiatives, and promotes consensus around the policy response. Effective processes for

engaging stakeholders have clear objectives, are inclusive and transparent, enable dialogue between stakeholders, and have feedback loops so that stakeholders are informed about how their inputs are used (or not used). Participation in the stakeholder engagement process should encompass a wide range of private sector, academic, civil society, and local community interests. Framework legislation typically constitutes a forum, council, or assembly to facilitate debate. Framework or subsidiary legislation may provide for specific forums to address sectoral, regional, or local issues. Special consideration should be given to groups that would otherwise have limited voice in the policy process and may be adversely affected by climate change and by policies, such as indigenous peoples, minorities, and low-income communities.

Stakeholder engagement

[Colombia's](#) framework law on climate change set up the National Council for Climate Change as a permanent consultation body to ensure effective coordination between the government and unions, civil society, the Congress, and academia.

[Ireland](#) has created a Citizens' Assembly on climate change, and [Costa Rica](#) has created a Citizen Advisory Council and Citizen Consultative Council on Climate Change.

In [Mexico](#), the law requires the Inter-Ministerial Commission on Climate Change to make available on the web a detailed annual report on the general state of the climate; the results of evaluations of the National Climate Change Policy; and promotion of civil society's participation in planning, implementation, and oversight of policy.

[Peru's](#) Framework Law on Climate Change provides for the rights and participation of indigenous stakeholders.



Element 9: Subnational Government

The role of subnational government in framework legislation will be shaped by the institutional arrangements and functional responsibilities of national and subnational governments as defined in the constitution and organic legislation. The scope for national government to regulate the policy process and dictate policy will typically be greater in states where subnational

governments are administratively subordinate to national government, as in unitary states, compared with states where subnational government is autonomous, as in federations. In all states, there will be functions that are the sole jurisdiction of national or subnational government and functions that are shared. Within these bounds, framework legislation can clarify the responsibility of subnational government to tax, regulate,

and spend in the implementation of climate change policy and delegate specific roles and mandates of central government to subnational authorities.

Framework legislation may require subnational governments to set targets, prepare plans and strategies, and report on implementation. Where subnational governments are required to set decarbonization and adaptation targets, some flexibility will be needed to respond to local conditions and allow subnational administrations to set higher levels of ambition than the national government. Strategies and plans may be dedicated to climate change or require the integration of climate change policy in routine planning instruments, such as development plans, land use plans, and the annual budget process. Institutional arrangements may be put in place to facilitate coordination across tiers of government, while allowing them flexibility to respond to local conditions.

Framework legislation should provide subnational governments with the means and incentives to decarbonize and adapt within their areas of competence. The policy instruments used by national government to empower and engage subnational government typically include a combination of the following:

- **Information** to raise awareness and the capability of subnational governments may include territorial climate risk and vulnerability assessments and the underlying data, scientific information, and technological research on decarbonization and adaptation. Subnational governments also can be required to publish territorial climate risk and vulnerability assessments, climate change policies, strategies, and plans and report on their implementation.

- **Regulations** encompass rules, standards, and enforcement arrangements that limit, guide, or empower subnational government to regulate in line with national climate change policy, including through building standards and codes; land use zoning and spatial planning regulations; and regulations on functions assigned to subnational authorities such as transport, energy, waste, water, and land use management.
- **Programs** can promote decarbonization, reduce vulnerability, and increase resilience of households, businesses, and public agencies through grants and transfers that finance investments and services implemented by subnational authorities.
- **Fiscal measures** at the subnational government level can promote decarbonization, reduce vulnerability, and increase resilience, for example, through mandates to raise green taxes and charges. Such measures assign social costs using a “polluter pays” principle (such as traffic congestion charges) or recover the cost of protecting assets against the physical risks of climate change (such as variable property taxes).
- **Fiscal management practices** that reduce vulnerability align resource allocation across the public sector with decarbonization and resilience objectives. For example, they can require local authorities to report on public expenditures that undermine climate change objectives; publish assessments of the fiscal risks related to extreme weather events and long-term environmental change; and apply climate vulnerability assessments in the design and appraisal of all programs and projects.

Subnational governments

In [China](#), the central government sets a national target, which is allocated downward to provinces. The performance management system is used to incentivize action by subnational officials.

[Mexico's](#) General Law on Climate Change mandates Mexico's 32 states and 2,475 municipalities to develop local mitigation and adaptation programs and provides for their representation in the National Climate Change System.

[Colombia's](#) framework law requires regional, municipal, and district authorities to incorporate climate change management into their development and land management plans.

The [United Kingdom's](#) Climate Change Act mandates that the devolved administrations of Scotland, Wales, and Northern Ireland create their own policies and implement national targets, even though there are no provisions for councils, cities, and the English regions. Scotland and Wales have adopted their own climate change laws and policies, which draw upon and interact with the Climate Change Act. The act also creates a common analytical resource in the form of the Climate Change Committee to assist in the development and implementation of regional policy frameworks.



Element 10: Financing Implementation

Framework legislation should require national government to address climate change risks and policy objectives in the preparation of its public financial management instruments. The principal instruments include macroeconomic and fiscal risk assessments; medium- and long-term fiscal and budget frameworks; the identification, appraisal, and selection of programs and investment projects; annual budget documents; budget execution reports; and financial statements. Medium- and long-term fiscal planning and predictability in the allocation of resources is critical. It allows public entities to plan and finance long-term structural changes in infrastructure and economic activity, and it communicates the government's policy commitment to businesses and households. Detailed arrangements for

how climate change risks and policy objectives should be reflected in these instruments is best addressed in subsidiary regulations. Several framework laws require governments to address climate change in their annual budget process. Climate change considerations can also be taken into account outside of the budget process, for instance by requiring fiscal risk assessments and program and project appraisals to assess physical and transitional risks during project preparation. Publication of information on public finances and climate change will inform debate on policy priorities. Framework legislation may require government to publish assessments of climate-related physical and transition risks and details of the proposed allocation and application of funds in support of climate change policies.

Budget policy

[Sweden's](#) climate change law explicitly states that climate and national budgetary policies should be aligned and requires that investment-related impacts be explicitly taken into account in its four-year climate plan. It also requires that the annual government report on climate action be connected to its budget bill, strengthening the link between the two.

[France's](#) law requires that its annual implementation report be connected with the budget bill. The report contains information on dedicated public and private funds and calculates the gap to the required volumes.

[Germany's](#) climate law links to the annual budget process through an overview on progress by sector and includes information on the cost of purchasing external credits to meet EU climate target obligations. The law also includes an obligation to assess the impact of federal and state investments on climate targets.

Spain's draft law envisions the allocation of a determined share of the annual budget to climate-related purposes.

Framework legislation may establish dedicated funds to finance climate change initiatives. The source of funds and criteria for the application of funds should be specified in the framework legislation, together with the fund's governance, reporting, and oversight arrangements. Good practice in public expenditure management discourages the use of dedicated funds because they fragment the resources available to government and create inflexibility in allocation of resources in support of a policy objective. The rationale for the creation

of a climate change fund is strongest where the fund will be financed from resources that have been mobilized specifically to achieve climate change–related goals, for example, taxes that have been earmarked for climate change activities. Use of a segregated climate change fund can increase confidence that funds will be used for the purposes intended and so help overcome political resistance to new, additional taxes and charges (World Bank 2014).

Climate Change Funds

Mexico's climate law refers to market-based mechanisms to achieve its targets and establishes a Climate Change Fund to attract and channel public, private, national, and international financial resources to support the implementation of actions to combat climate change. The provisions related to the fund outline the major sources of its assets (domestic budget, donations, international finance, taxes, and other charges) and allowable expenses.

Paraguay's National Law on Climate Change of 2017 creates a Climate Change Fund under the Environment Secretariat. The secretariat oversees public and private funds directed toward mitigation and adaptation.

Brazil's Law 12.144/2009 and Decree 7.343/2010 establishes the National Fund on Climate Change to develop technologies for mitigation, research, project and inventory systems and methodologies, and reduction of emissions from deforestation and land use change.

Bangladesh's Climate Change Trust Fund Act of 2010 created the Climate Change Trust Fund as a designated mechanism to fund actions to address the adverse impacts of climate change. The trust fund draws on various sources, including state budget and foreign aid.

Tuvalu's Climate Change and Disaster Survival Fund Act of 2015 establishes a fund to finance the provision of vital services to combat climate change and natural disasters.

Guatemala's framework law of 2013 creates a National Fund for Climate Change to finance risk management plans, programs, and projects for adaptation, mitigation, enhancement of capacities, payment for ecosystem services for carbon sinks, water production and protection, and more.



Element 11: Measurement, Reporting, and Verification

Measurement, reporting, and verification (MRV) systems should generate the information needed to track progress toward national climate change targets, support the national policy-making process, and monitor compliance with international commitments.⁹ MRV systems inform the review, revision, and evaluation of targets, risk assessments, strategies and plans, and policy instruments (elements 1–5). MRV systems also support independent expert advice, coordination, stakeholder engagement, and oversight (elements 6–8 and 12). The data generated through MRV systems can serve a broader developmental purpose. It can contribute to independent research, raise awareness, and facilitate debate on climate change policy. The data can help businesses assess markets and identify investment opportunities.

Framework legislation should regulate arrangements for MRV. Typically, framework legislation will define the broad categories of information that the government will gather; empower government to gather information from across the public sector, from businesses, and from households; require the government to publish periodic reports on the implementation and impact of climate change policy; and provide public access to data with appropriate data protection safeguards. Framework legislation may assign institutional responsibility—standard setting, consolidation of data, and verification of information provided by third parties—to a specialized MRV entity given the technical complexity of the information.

Measurement, reporting, and verification

Mexico's General Law on Climate Change creates a transparency framework and mandates the government to develop a registry of GHG emissions and short-lived climate pollutants from mobile and stationary sources, as well as develop regulations determining what sources need to report to the registry; the methodologies for calculating emissions; and the system for monitoring, reporting, and verifying emissions. The law also imposes penalties for noncompliance with the requirements to submit information and provides for an annual national report on climate change. The law further contains provisions for the periodic and systematic evaluation of the national climate change policy to be carried out at least every two years.

The United Kingdom's Climate Change Act mandates the secretary of state to publish guidance on measurement of GHG emissions. It requires the government to develop guidance for reporting authorities on how to measure and report on the impacts of climate change. The government is required to report every five years on the risks of climate change to the United Kingdom, and publish a program setting out how these impacts will be addressed.

Tunisia has adopted an MRV system for its nationally appropriate mitigation action, using both ex ante and ex post calculations of emissions, financial flows, and energy use, which are updated annually.

South Africa uses its National Climate Change Response Database to allow users to access relevant information on mitigation, adaptation, and other projects throughout the country. The system highlights the country's progress in reaching its emissions reduction targets and allows for more informed decision making.

Colombia has created a National Registry of Reduction of Greenhouse Gas Emissions, which includes a National Registry of Programs and Projects for the Reduction of Emissions due to Deforestation and Forest Degradation (REDD+). Colombia uses units of GHG reductions or removals as part of a voluntary mechanism in lieu of a national carbon tax. It has developed a publicly accessible online platform to track finance on decarbonization and adaptation projects (Bravo Cordoba 2018).

9. The element Measurement, Reporting, and Verification (MRV) fulfills an obligation of Parties to the United Nations Framework Convention on Climate Change to inform the Conference of the Parties of the actions they have taken or envisage they will take to implement the Convention. Developing country parties are required to measure GHG emissions and removals by sinks; emission reductions and enhancement of removals associated with mitigation actions compared to a baseline scenario; progress in climate change mitigation and adaptation, achievement of sustainable development goals and co-benefits; and finance, technology and capacity-building support received. Reporting entails submission of national communications every four years and biennial update reports (BURs) every two years. Verification may be undertaken through national systems and through international consultation and analysis. Countries must communicate their domestic arrangements for MRV (United Nations Climate Change Secretariat 2014).



Element 12: Oversight

Framework legislation should mandate oversight of implementation. Oversight encompasses verification of executive compliance with obligations under the law. Framework legislation typically requires the executive branch to submit periodic reports to the legislature. It may also require the executive to submit proposals to adjust its strategies, plans, and policies if it fails to meet, or is at risk of failing to meet, targets specified in legislation. The legislature's oversight considers the inputs from independent expert advice; stakeholder engagement; and measurement, reporting, and

verification (elements 6, 8, and 11). Expert advisory and stakeholder consultative bodies may be required to report directly to the legislature to ensure their independence from the executive branch. Supreme audit institutions may be mandated to conduct periodic compliance and performance audits of government climate change policy and report back to the legislature (INTOSAI 2010). Courts can provide an independent mechanism for interested parties to bring cases seeking compliance with the framework law.

Oversight

[Colombia's](#) framework climate law requires the president to present to Congress a consolidated report on the country's progress in complying with the Nationally Determined Contribution a year before the report is due to be provided to the UNFCCC.

[Kenya's](#) law requires the cabinet secretary (minister) for environment and climate change to report biannually to the parliament on the status of international and national climate commitments and on progress toward achieving low-carbon, climate-resilient development. The law also provides broad standing for citizens to bring claims before the Environment and Land Court in response to actions that have adversely affected, or are likely to affect, mitigation and adaptation efforts.

The [United Kingdom's](#) model creates strong parliamentary oversight of both policy development and implementation. The Climate Change Act requires the secretary of state to report to Parliament with an annual statement on GHG emissions. The independent advisory body, the Climate Change Committee, is mandated to prepare an annual report on the status of implementation of the carbon budgets and an assessment on whether the government is on track to meet the budgets. Progress reports on adaptation are prepared by the committee biannually and are also presented to Parliament. The secretary of state has a duty under the law to present to Parliament a detailed response to the committee's reports, with clear timelines specified in the act. This regular reporting keeps climate policy on the parliamentary (and thus public) agenda and ensures transparency and accountability for progress, with the main incentive for compliance being the threat of judicial review. Strong parliamentary oversight and the requirement for the government to respond to the committee's advice set the UK accountability framework apart from many other countries and ensure greater effectiveness of the independent body.

In July 2020, the Supreme Court of Ireland [ruled](#) that the government's 2017 national mitigation plan fell short of the required action to meet the target contained in the Climate Action and Low Carbon Development Act of 2015 (the target being an 80 percent reduction of 1990 levels by 2050). The legal action was brought by a civil society organization. In reaching its decision, the court took note of the views of an independent expert advisory body established under the act. The court ordered the government to submit a more specific national mitigation plan that covers the whole period to 2050. Given that the mitigation targets had been established in law, the court rejected arguments that climate policy was a matter for the government alone to determine.



Application of Key Elements in Existing Framework Laws

This guide applied the questions in the summary sheet to national climate change framework legislation to assess the incidence of the elements across the laws (figure A.1) and the integration of the elements in the framework law of each country (figure A.2) based on the specific framework law reviewed rather than on how the element is addressed through the regulatory framework overall.

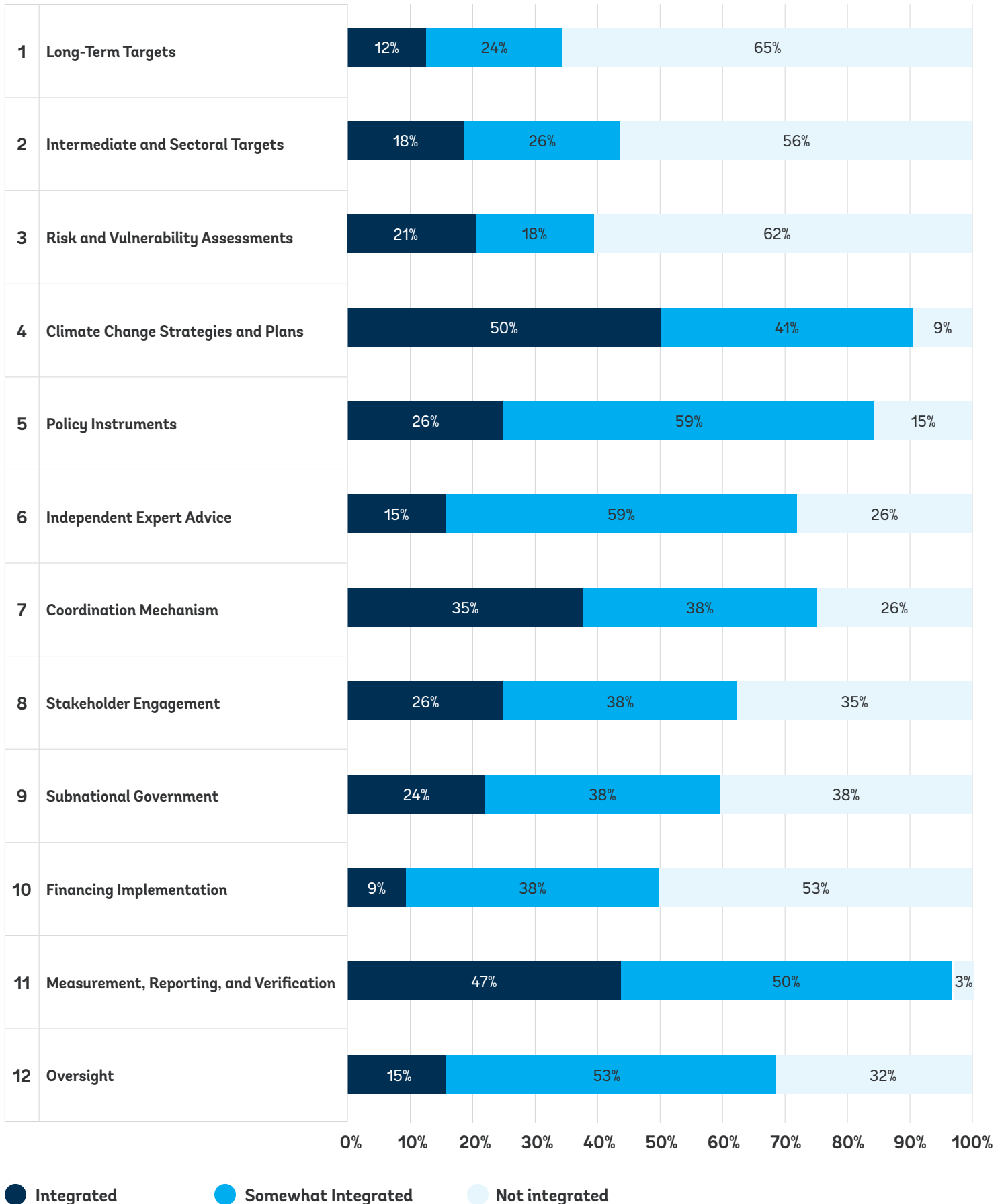
An element was determined to be either integrated, somewhat integrated, or not integrated into the relevant framework law based on the summation of answers to each question (yes, no, or partial), and the number of questions under each element (see appendix A for more detail).

The purpose of this analysis is to provide an overall view of the incidence of the 12 elements and offer a snapshot of examples for countries to use to guide the development of new or updated climate legislation. The purpose is not to rate individual country legislation. In some countries the elements may not be relevant. In some countries the elements may be addressed in other regulatory instruments which were not covered by this analysis.

The elements that appear most frequently in climate change framework legislation are Measurement, Reporting and Verification (element 11), Climate Change Strategies and Plans (element 4) and Policy Instruments (element 5) which are integrated or somewhat integrated in more than 80 percent of the laws. The elements that appear least frequently are Long-Term Targets (element 1), Risk and Vulnerability Assessments (element 3), and Intermediate and Sectoral Targets (element 2), which are integrated or somewhat integrated in less than half of the laws.

FIGURE A.1 - Incidence of the 12 Key Elements across National Laws

Summary: Level of Integration

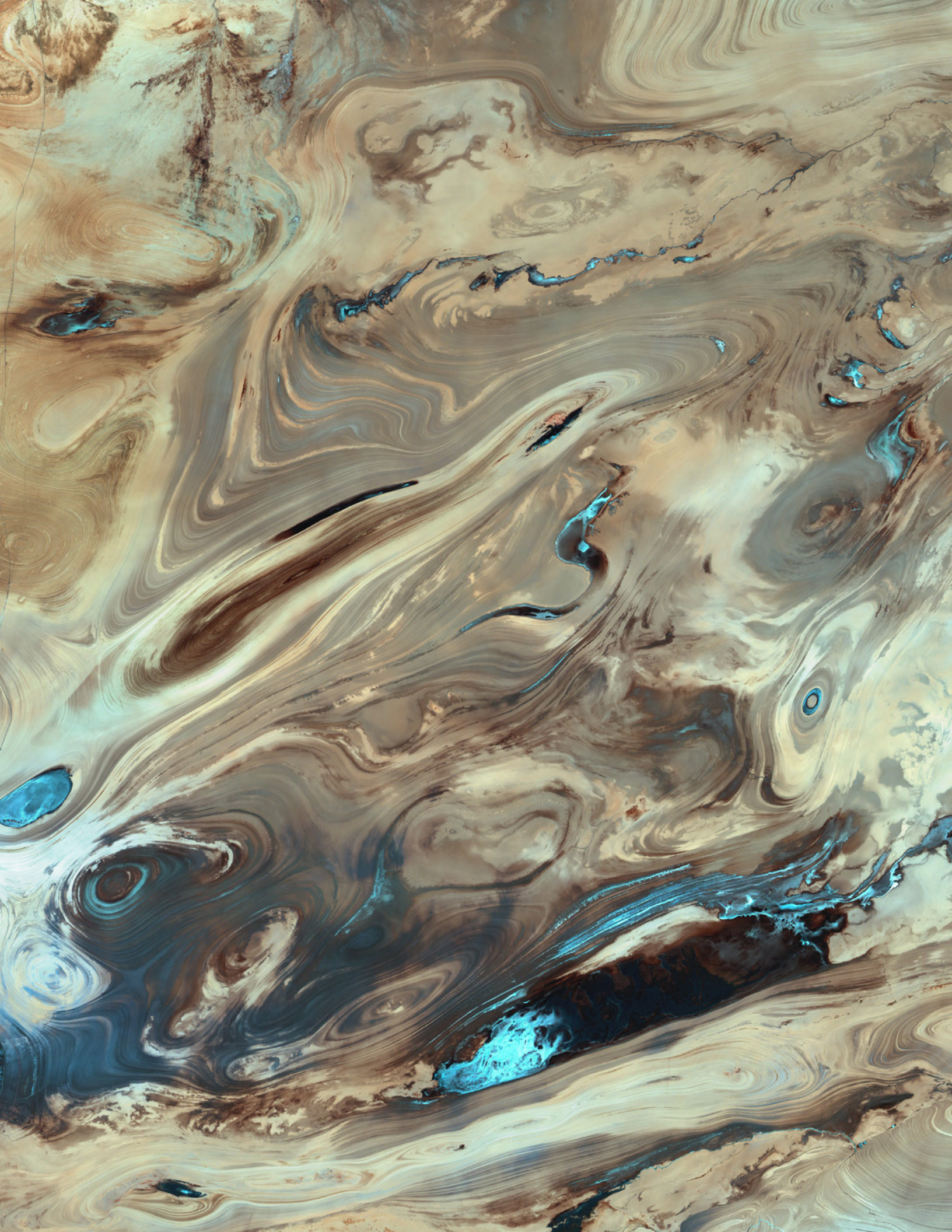


Integrated
 Somewhat Integrated
 Not integrated

FIGURE A.2 - Status of Element Integration in Framework Legislation

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|------------------------------------|-------------------|-----------------------------------|------------------------------------|-------------------------------------|--------------------|---------------------------|----------------------------|------------------------|-------------------------|--------------------------|---|-----------|
| | Long-Term Targets | Intermediate and Sectoral Targets | Risk and Vulnerability Assessments | Climate Change Strategies and Plans | Policy Instruments | Independent Expert Advice | Mechanism for Coordination | Stakeholder Engagement | Subnational Governments | Financing Implementation | Measurement, Reporting and Verification | Oversight |
| Austria | | | | | | | | | | | | |
| Benin | | | | | | | | | | | | |
| Brazil | | | | | | | | | | | | |
| Bulgaria | | | | | | | | | | | | |
| Colombia | | | | | | | | | | | | |
| Croatia | | | | | | | | | | | | |
| Denmark | | | | | | | | | | | | |
| Finland | | | | | | | | | | | | |
| France | | | | | | | | | | | | |
| Germany | | | | | | | | | | | | |
| Guatemala | | | | | | | | | | | | |
| Honduras | | | | | | | | | | | | |
| Ireland | | | | | | | | | | | | |
| Japan (mitigation) | | | | | | | | | | | | |
| Japan (adaptation) | | | | | | | | | | | | |
| Kenya | | | | | | | | | | | | |
| Korea, Rep. | | | | | | | | | | | | |
| Liechtenstein | | | | | | | | | | | | |
| Malta | | | | | | | | | | | | |
| Mexico | | | | | | | | | | | | |
| Micronesia | | | | | | | | | | | | |
| Mozambique | | | | | | | | | | | | |
| Netherlands | | | | | | | | | | | | |
| New Zealand | | | | | | | | | | | | |
| Norway | | | | | | | | | | | | |
| Pakistan | | | | | | | | | | | | |
| Papua New Guinea | | | | | | | | | | | | |
| Paraguay | | | | | | | | | | | | |
| Peru | | | | | | | | | | | | |
| Philippines | | | | | | | | | | | | |
| Slovenia | | | | | | | | | | | | |
| Sweden | | | | | | | | | | | | |
| Switzerland | | | | | | | | | | | | |
| Taiwan, China | | | | | | | | | | | | |
| United Kingdom | | | | | | | | | | | | |







References

Averchenkova, A. 2019. “Legislating for a Low Carbon and Climate Resilient Transition: Learning from International Experiences.” Elcano Policy Paper 3/2019, 11/3/2019.

Averchenkova, A., S. Fankhauser, and J. Finnegan. 2018. *The Role of Independent Bodies in Climate Governance: The UK’s Committee on Climate Change*. London: Grantham Research Institute on Climate Change and the Environment and Centre for Climate Change Economics and Policy, London School of Economics and Political Science.

Averchenkova, A., S. Fankhauser, and J. J. Finnegan. 2020. “The Impact of Strategic Climate Legislation: Evidence from Expert Interviews on the UK Climate Change Act.” *Climate Policy*. doi:10.1080/14693062.2020.1819190.

Averchenkova, A., and S. L. Guzman Luna. 2018. *Mexico’s General Law on Climate Change: Key Achievements and Challenges Ahead*. London: Grantham Research Institute on Climate Change and the Environment and Centre for Climate Change Economics and Policy, London School of Economics and Political Science.

Bravo Cordoba, S. “INSIDER: Q&A: Spotlight on Colombia’s Efforts to Track Progress Toward Tackling Climate Change.” World Resources Institute, Washington, DC, June 7, 2018. <https://www.wri.org/blog/2018/06/insider-qa-spotlight-colombias-efforts-track-progress-toward-tackling-climate-change>.

Duwe, M., M. Freundt, E. Iwaszuk, D. Knoblauch, M. Maxter, L. Mederake, R. Ostwald, A. Riedel, K. Umpfenbach, E. Zelljadt, J. Finnegan, and A. Rüdinger. 2017. “Paris Compatible” Governance: Long-Term Policy Frameworks to Drive Transformational Change. A Comparative Analysis of National and Sub-National Case Studies. Paris: Ecologic Institute. https://www.ecologic.eu/sites/files/publication/2017/paris_compatible_governance_ecologic_institute_report_0.pdf.

Fisher, E. 2017. *Environmental Law: A Very Short Introduction*. Oxford, UK: Oxford University Press.

Iacobuta, G., N. K. Dubash, P. Upadhyaya, M. Deribe, and N. Höhne. 2018. “National Climate Change Mitigation Legislation, Strategy and Targets: A Global Update.” *Climate Policy* 18 (9): 1114–32.

INTOSAI (International Organization of Supreme Audit Institutions) Working Group on Environmental Auditing (2010) Auditing the Government Response to Climate Change: Guidance for Supreme Audit Institutions. <https://wgea.org/focus/focus-on-climate-change/>.

IPCC (Intergovernmental Panel on Climate Change). 2018. *Global Warming of 1.5°C*. Geneva: Intergovernmental Panel on Climate Change.

Lockwood, M. 2013. The Political Sustainability of Climate Policy: The Case of the UK Climate Change Act. *Global Environmental Change* 23 (5): 1339–48.

Mehryar, S. and S. Surminski. 2020. “National laws for enhancing flood resilience in the context of climate change: potential and shortcomings.” *Climate Policy*, DOI: 10.1080/14693062.2020.1808439

Nash, S., and R. Steurer. 2019. Taking Stock of Climate Change Acts in Europe: Living Policy Processes or Symbolic Gestures? *Climate Policy* 19 (8): 1052–65.

Rüdinger, A. 2018. *Best Practices and Challenges for Effective Climate Governance Frameworks: A Case Study on the French Experience*. Studies no. 03/18. Paris: IDDRI.

Scotford, E., and S. Minas. “Probing the Hidden Depths of Climate Law: Analysing National Climate Change Legislation,” in “The Global Pact for the Environment and Gaps in International Environmental Law, special issue, *RECIEL* 28 (1) (Special issue): 67– 81. <https://doi.org/10.1111/reel.12259>.

Olhoff, A., C. M. Skou Knudsen, G. S. Martinez, H. Neufeldt, and K. Dorkenoo. 2018. *Adaptation Gap Report 2018. United Nations Environment Programme (UNEP), Nairobi, Kenya*. UNEP DTU Partnership. <https://unepdtu.org/publications/the-adaptation-gap-report-2018-united-nations-environment-programme-unep-nairobi-kenya/>.

United Nations Climate Change Secretariat. 2014. *Handbook on Measurement, Reporting and Verification for Developing Country Parties*. Bonn, Germany: UN Climate Change Secretariat.

World Bank. 2013. *World Development Report 2014: Risk and Opportunity—Managing Risk for Development*. Washington, DC: World Bank.

World Bank. 2014. *Climate Change Public Expenditure and Institutional Review Source Book*. Washington, DC: World Bank.

World Bank. 2015. *Decarbonizing Development: Smoothing the Transition and Protecting the Poor*. Washington, DC: World Bank.



Appendix: Description of Assessment Methodology

The designation of integrated, somewhat integrated, or not integrated for each element is derived from the following:

- a. An assessment of each question under the element and whether that question is answered “yes,” “no,” or “partial,” and
- b. The summation of the answers to questions based on the number of questions under each element and the answer to each (see table below).

For example, element 3, Risk and Vulnerability Assessment, contains three questions: Does the law require climate risk and vulnerability assessments? Does the law require the publication of the risk and vulnerability assessments? Does the law require periodic updates of risk and vulnerability assessments in line with new evidence and science? In conducting the assessment, if a framework law required risk and vulnerability assessments (“yes”), and required the assessments to be published (“yes”) but did not require them to be updated (“no”), then the law would have been assessed as being somewhat integrated for element 3, because it has two yeses and one no.

Elements with 2 questions

- 2 yes = integrated
- 1 yes + 1 partial = somewhat integrated
- 1 yes + 1 no = somewhat integrated
- 2 partial = somewhat integrated
- 1 no + 1 partial = not integrated
- 2 no = not integrated

Elements with 3 questions

- 3 yes = integrated
- 2 yes + 1 partial = Integrated
- 2 yes + 1 no = somewhat integrated
- 1 yes + 1 partial = somewhat integrated
- 1 yes + 1 no + 1 partial = somewhat integrated
- 1 yes + 2 no = Somewhat integrated
- 3 partial = somewhat integrated
- 1 no + 2 partial = not integrated
- 2 no + 1 partial = not integrated
- 3 no = not integrated

Elements with 4 questions

- 4 yes = integrated
- 3 yes + 1 partial = integrated
- 3 yes + 1 no = somewhat integrated
- 2 yes + 2 partial = somewhat integrated
- 2 yes + 1 partial + 1 no = somewhat integrated
- 2 yes + 2 no = somewhat integrated
- 3 partial + 1 yes = somewhat integrated
- 3 partial + 1 no = somewhat integrated
- 2 partial = 2 no = somewhat integrated
- 2 partial + 1 yes + 1 no = somewhat integrated
- 1 yes + 2 partial + 1 no = somewhat integrated
- 1 yes + 1 partial + 2 no = somewhat integrated
- 3 no + 1 yes = not integrated
- 3 no + 1 partial = not integrated
- 4 no = not integrated

