

The Open Gov Guide

2024

Open
Government
Partnership



Climate and Environment



The Escazú Agreement (adopted in Escazú, Costa Rica) affirms environmental democracy principles and practices as necessary to protect both the environment and human rights defenders. Pictured: Maricela Fernandez, an indigenous community leader in Costa Rica who works to promote gender equality and the protection of the environment.

Open Climate Data

Climate change is an incredibly complex challenge affecting everyone, especially those living in lower-income countries who are the [most vulnerable](#) to extreme, variable weather events and long-term shifts in climate. Adapting to climate change and mitigating its impact will require a high level of coordination within and between societies, involving a wide range of sectors.

Open climate data is [essential](#) to supporting such coordination. Specifically, countries should collect and publish climate change-related data in an open format to effectively understand risk, inform policy-making, track progress in meeting commitments and reporting requirements of treaties such as the [Paris Agreement](#), and evaluate the impact of policies. However, at present, climate-relevant data is [often](#) “incomplete, fragmented across agencies, and not made available in interoperable and accessible formats.” Making government-held data public is a crucial step to allowing other groups—such as the private sector, academia, and civil society organizations (CSOs)—access to information necessary to identify problems and collaborate on solutions. Equally important is ensuring public officials across all levels of government have the training and resources necessary to implement such solutions.

Open Gov Challenge Climate and Environment

With OGP’s [2023-2028 Strategy](#), OGP members are set to work toward a number of aspirational thematic reforms through the [Open Gov Challenge](#). This section of the *Open Gov Guide* addresses Climate and Environment.

Challenge prompt: Use open government to strengthen implementation of strategies or agreements on climate and environment.

Actions and reforms could include:

- Implementing provisions in agreements such as the Escazú Agreement, Aarhus Convention, or Paris Agreement.
- Implementing a climate and environment roadmap or strategy, strengthened through open government approaches.
- Ensuring public oversight and transparency for climate finance and greening existing fiscal and planning processes.

Key Terms

- **Climate adaptation:** Adaptation [involves](#) “anticipating the adverse effects of climate change and taking appropriate action to prevent or minimise the damage they can cause, or taking advantage of opportunities that may arise.”
- **Climate data:** In the context of this chapter, [climate data](#) refers to “environmental, social and economic data that measure the human causes of climate change, the impacts of climate change on human and natural systems, the efforts of humans to avoid the consequences as well as their efforts to adapt to the consequences.” To be considered “[open data](#),” climate data must be [published](#) with the technical and legal characteristics to be “freely used, reused, and redistributed by anyone, anytime, anywhere.” It must also be [machine-readable and openly licensed](#) to permit free redistribution and reuse. The climate data in this chapter refers to government-held data unless otherwise stated.
- **Climate mitigation:** Mitigation specifically [focuses](#) on reducing existing greenhouse gas emission levels and preventing new emissions to make the impact of climate change less severe.

The Evidence

Open climate data can [support](#) open government strategies to tackle climate change in several ways.

- As governments open up more data, their incentives to improve data quality and usability improve. Standardization allows users to improve their validation of climate-relevant data. Opening up climate data can also improve the transparency and accessibility of climate-related models, which are essential to climate adaptation.
- Governments can improve policy coherence by reducing data fragmentation and improving data standardization and interoperability. This can be done by integrating different data sources into a centralized database, such as across agencies and from non-government entities like the private sector.
- Beyond opening up climate data, governments can build trust with the public by carrying out campaigns to build users’ awareness of available data and to train them on how to use the data, such as by monitoring climate-related policies.
- By improving knowledge and data-sharing processes across government, open climate data can streamline how a government reports progress under the Paris Agreement and any other relevant international and regional agreements or standards.

Reform Guidance

Recommended Reforms

The recommendations below represent reforms that national and local governments, representatives of civil society organizations, and others can consider for their action plans and the [Open Gov Challenge](#). The reforms are categorized according to OGP’s principal values: transparency, civic participation, and public accountability. Reforms should be adapted to fit the domestic context, and involve and coordinate with other levels and branches of government.

Reforms across policy areas are also tagged by the estimated degree of difficulty in implementation. Though progress is often not linear, the recommendations have been categorized using these labels to give the reader a sense of how different reforms can work together to raise the ambition of open government approaches.

- **Foundational:** This tag is used for reforms that are the essential building blocks of a policy area. “Foundational” does not mean low ambition or low impact. These recommendations often establish basic legal and institutional structures.
- **Intermediate:** This tag is used for reforms that are more complex and often involve more coordination and outreach, such as with the public, between branches, agencies, and levels of government, or between countries.
- **Advanced:** This tag is used for reforms that close important loopholes to make existing work more effective and impactful. They are often about linking multiple databases or ensuring that oversight authorities can receive complaints from members of the public.

FOUNDATIONS

Create or strengthen the legal framework on the right to information: [Create or strengthen](#) the legal framework around right to information (RTI) protections, including rules on archive management, proactive disclosure requirements, and the publication of performance data. In countries with lists of proactive data to be published, ensure that high-value climate data is on that list. For details on RTI best practices, see the “[Right to Information](#)” chapter of the *Open Gov Guide*.

Some countries may not need to develop specific legal frameworks to provide access to environmental data because international or regional agreements requiring such disclosure are incorporated into legislation once signed. Instead, the focus should be on implementing agreement requirements, such as the [Escazú](#) Agreement.



OPEN CLIMATE DATA

- Create or strengthen an official climate lead:** [Create or strengthen](#) a national-level climate lead, such as a climate cabinet or working group, focused on public information access and digital government. Such a body should be mandated to provide expertise and targeted assistance in shaping policy-making and capacity building across government, and can centralize the coordination of public awareness-raising campaigns related to climate and the environment. Examples of structures to improve coordination could be the [Action for Climate Empowerment \(ACE\)](#) office, if a government has one, or a combination of national statistical offices, open data offices, and access to information bodies.
- Ensure that there are systems across agencies to collect, publish, and centralize open climate data:** [Create](#) systems across agencies to collect and publish open climate data across levels of government, including a centralized platform where the data can be shared. That system should be able to coordinate interoperable, cross-sector data collection, prioritize high-value datasets for proactive disclosure, and ensure adequate resources for agencies charged with data collection and publication.
 - The official climate lead should be mandated to support data collection and publication by having the power to request data from other ministries and agencies and to set open data guidelines and standards for other government bodies to follow.
 - Such coordination on open climate data can be complemented by parallel efforts by non-government actors. For example, the Climate Risk Atlas in [Chile](#) is an academic initiative that is coordinated by the Interministerial Technical Team on Climate Change.

Legislature
Foundational

Executive
Legislature
Intermediate

TRANSPARENCY

- Collect and publish climate-related data in an open format:** [Collect and publish key climate-related data](#) in an open format (see the “High-Value Climate Data Checklist” below). Specifically, relevant government bodies can [share](#) climate data and metadata in free, machine-readable formats and standardize vocabulary to make such information easier to analyze.
 - [Research institutions and networks](#) can support the integration of community priorities and perspectives into data collection and publication.
 - [According to](#) Open Data Charter and World Resources Institute, governments should ensure the collection and publication of climate-related data that are often missing in existing datasets, such as the following:
 - the demographic, socio-economic and technological factors driving greenhouse gas (GHG) emissions;
 - the vulnerability and adaptive capacity of different sectors of the economy and of society;
 - the likely impacts of climate change on vulnerable groups and its effects on existing inequalities—including gender-disaggregated data; and
 - the effects of policies and programs on GHG emissions and climate preparedness.

Transparency
Executive
Inclusion
Foundational

OPEN CLIMATE DATA

- Make climate data interoperable:** Use common identifiers across datasets related to climate change, environmental impacts, and other relevant topics to ensure that data in different databases can be used together, which increases accountability. Though the origin of government-held data can vary considerably by country, it is [often](#) the case that line ministries and sectoral agencies at the national level and local jurisdictions at the subnational level all collect their own data.
 - Examples of key common identifiers are [georeferencing coordinates](#) to specify physical locations and identifiers for actors (such as companies, contractors, public-private partnership members, and local government entities) in line with the [Global Legal Identifier](#) standard.
 - Regulatory agencies can [collaborate](#) with research institutions to improve interoperability through better digital infrastructure design choices.
- Ensure government bodies that collect and publish climate data have adequate resources:** [Ensure](#) government bodies have the resources and capacity to collect, clean, and publish climate data. Government bodies that collect and publish climate data should also guarantee that the data is updated, complete, and matches user needs.
 - Conduct training sessions with public officials to ensure they know how to carry out data-related tasks.
 - Consider creating an incentive program to encourage public officials to further develop their fluency with open data best practices in general, and open climate data in particular.

Transparency

Executive

Legislature

Intermediate

Transparency

Executive

Legislature

Intermediate

CIVIC PARTICIPATION

- Consult with data users:** [Consult](#) those using the data (especially researchers and journalists) in an advisory capacity to ensure data is useful and usable. Specifically, governments can [assess](#) the demand for specific types of climate data, data users' needs, and the performance of existing data platforms.
- Conduct training and awareness raising for non-government actors:** Provide tailored training for different non-government actors, such as CSOs, journalists, the private sector, academics, and the general public. This is necessary to create a baseline understanding of what open climate data is, why it matters, and how it can be used to monitor progress on climate-related commitments.
- Conduct public consultations on high-value data prioritization:** Conduct consultations where relevant members of the public can inform decision-making, such as in the identification of climate-related priorities for data collection or the design of pilots to collect new types of data. Ensure that such consultations include targeted outreach to vulnerable communities. Examples of this include [deliberative models of participation](#) at national and local levels.

Civic Participation

Executive

Legislature

Inclusion

Foundational

Civic Participation

Executive

Inclusion

Intermediate

Civic Participation

Executive

Legislature

Inclusion

Intermediate

PUBLIC ACCOUNTABILITY

- Create or strengthen oversight mechanisms:** Create or strengthen independent audit and legislative oversight mechanisms to use open climate data in [assessing](#) whether government funds are spent effectively and equitably on climate actions. Governments may wish to create cross-governmental inspectors and ombudsperson offices to ensure that data conforms to the law and is accurate and free of political influence.
 - This includes publishing audit reports in an easy-to-find location (such as a central portal) and a structured format. Consider conducting a campaign to amplify the reach of the reports with users of such data (such as CSOs and journalists) and the general public.
- Create a public verification mechanism:** Create a complaint mechanism for the media, civil society, or interested members of the public to request verification of climate-related information. The government body responsible for this information should be given a mandate to investigate and respond to all requests in a timely manner.

Transparency

Public Accountability

Legislature

Foundational

Civic Participation

Public Accountability

Legislature

Foundational

High-Value Climate Data Checklist

Below is a checklist of common types of high-value climate data to collect and publish, based on research from the Open Data Charter (ODC) and the World Resources Institute (WRI). ODC created an [interactive checklist](#) of the high-value components of each dataset, including standards where they exist.

- **National greenhouse gas (GHG) emissions data:** Identify actions and investments to lower emissions and priority sectors for focused and coordinated action.
- **Agriculture data:** Assess vulnerabilities and “more effectively support local adaptation, water use, crop selection, and food security strategies.”
- **Land Use, Land Use Change, and Forestry (LULUCF) data:** Increase [institutional coordination](#) in land use decision-making to support national mitigation policies, improve accountability, and inform forest management by communities and the private sector.
- **Electricity and stationary energy (i.e. fuel) data:** Better coordinate mitigation and adaptation planning due to the high emissions and freshwater impact of this sector, and inform work to increase energy access.
- **Waste data:** Improve emissions tracking and the “impacts of mitigation activities deployed in the sector.”
- **Natural hazards and impacts data:** Better inform disaster risk management and adaptation planning by the public and private sectors, especially at the local level.
- **Climate vulnerability data:** Better inform disaster risk management and adaptation planning by the public and private sectors, especially at the local level.
- **Climate finance data:** Strengthen accountability and safeguard [climate funds](#) from corruption, especially by allowing investors and civil society to understand how funds are spent and their impact to inform future finance flows.

Examples of Reforms from OGP and Beyond

The following examples are commitments previously made within or beyond OGP that demonstrate elements of the recommendations made above. Almost half of OGP member countries have made at least one commitment on open data related to the environment and climate. OGP's Independent Reporting Mechanism has evaluated such commitments as more ambitious than average and with more promising results to bring about real-world change.

- **Corrientes, Argentina Open Data to Enhance Urban Tree Planting:** [Committed](#) to publishing a dynamic record of existing trees, extractions, replacements, and nurseries in the city to foster civic engagement in environmental management.
- **Costa Rica Open Public Data on Climate Change:** [Created](#) an open data [portal](#) where climate change-related data is stored and published for public access.
- **Dominican Republic Carbon Footprint Calculator for Public Procurement:** [Committed](#) to creating a Carbon Footprint Calculator to quantify the environmental impact of public procurement projects, which will be available to the public and will play a role in future contracting decisions in the medium term.
- **Indonesia Open, Centralized Data on Natural Resources:** [Committed](#) to continuing the “One Indonesian Data” project to publish standardized, centralized government-held data related to natural resources, the environment, and spatial planning. This commitment will also focus on linking data from the national and regional governments.
- **Kenya Data Publication on Climate Change:** [Committed](#) to publishing data related to climate change, such as information on carbon offset programs, afforestation, and climate change risks.
- **Panama Portal on Environmental Information:** [Committed](#) to updating its national environmental information system ([MiAmbiente](#)) to include data that complies with Article 6 of the Escazú Agreement. [Carried forward](#) the commitment in its 2023-2025 OGP action plan to continue improving the platform, such as by creating an avenue for feedback.
- **Paraguay Disclosure of Standardized Open Climate Data:** [Launched](#) a monitoring [dashboard](#) in 2018, which standardized and centralized open climate data, with data related to water issues, development projects, biodiversity, and climate change.
- **Uruguay Open Data on the National Energy Efficiency Plan:** [Made](#) publicly available [open data](#) on energy efficiency up to 2021, including a [map](#) of energy projects throughout the country, as part of an effort to increase public awareness of energy policy developments.

BEYOND OGP ACTION PLANS

- **Buenos Aires, Argentina Open Climate Data:** Developed [BA Climate Action](#), a platform that [provides](#) citizens with open data and visualizations on initiatives and goals, as well as proposals for participation and collaboration to achieve a resilient, sustainable, and carbon-neutral city.
- **Colombia Platform on Open Data for Agriculture:** [Created](#) the platform [Aclímate Colombia](#), which integrates several open datasets focused on agriculture resilience to “help farmers understand and adapt to changing weather patterns” and to fuel research on better farming practices.
- **Spain Open Climate Data Published:** [Published](#) open datasets that a multi-stakeholder coalition called Futuro en Común (Common Future) used to review the government’s progress in fulfilling the Sustainable Development Goals.
- **Sweden Strategy to Manage Environmental Data:** [Developed](#) a joint [Environmental Data Management Strategy](#) for several government bodies, which aims to improve the availability and use of environmental data.

The Role of Local Governments

The [Paris Agreement](#) requires significant action at the subnational level. The scale of climate change as a threat requires national governments to coordinate closely on climate actions and to empower local jurisdictions to innovate their own solutions. This multifaceted response includes the collection and publication of open climate data.

As the Open Data Charter [explains](#), municipal governments are key in collecting, managing, and publishing climate data from a very localized vantage point. Though more work needs to be done to integrate the data from cities and regions into national datasets, there are some positive developments in this direction. For example, [Canada's](#) Nationally Determined Contribution (NDC) under the Paris Agreement “comprehensively takes into account the GHG emissions reduction estimate of sub-national climate plans and actions,” making it a useful model for other countries.

Additionally, for over 20 years, [Disclosure Insight Action](#) (also known as CDP) has provided an [open data portal](#) for cities to disclose data regarding their environmental impact. The data helps cities report and assess their impact on their surrounding habitat, with almost 1,000 cities currently publishing their data in an open format. Making environmental data available on local greenhouse gas emissions and environmental risks has made cities like Miami (United States), Paris (France), and Wellington (New Zealand) leaders in climate action.

Subnationally, governments and communities can also use climate-related data in decision-making at the policy and individual levels to ensure that national-level datasets can inform local adaptation and mitigation efforts. In the [United States](#), the National Oceanic and Atmospheric Administration [maintains](#) a website on climate-related events that includes localized information that can be used to improve resilience.

Active OGP Partners

The following organizations have recently worked on this issue in the context of OGP at the national or international level. They may have additional insights on the topic. Please note that this list is not exhaustive. If you are interested in national-level initiatives, please contact research@opengovpartnership.org.

- [Open Data Charter](#)
- [UN Economic Commission for Europe \(UNECE\)](#)
- [World Bank](#)
- [World Resources Institute \(WRI\)](#)

Benchmarking Data

The [OGP 2023-2028 Strategy](#) sets out the [Open Gov Challenge](#) and aims to provide clear benchmarks for performance through reliable data.

While benchmarks for individual countries and *Open Gov Guide* recommendations are not yet integrated, for this chapter, interested individuals may rely on the following data sets:

- The **World Bank** maintains a [Climate Change Knowledge Portal](#) that provides global data on historical and future climate trends, vulnerabilities, and impacts. The portal also includes country-level profiles on climate risks and adaptation actions taken to date.
- **Open Data Watch** maintains the [Open Data Inventory](#) (ODIN). As of 2023, ODIN broadly assesses the openness and breadth of official statistics data for 195 countries. The inventory also includes key climate-related data on the [country profile](#) pages across categories 18-22.
- The **Global Facility for Disaster Reduction and Recovery** (an initiative under the World Bank) runs the [OpenDRI index](#) to identify, assess, and compare key datasets for disaster risk management.
- The **Global Climate Observing System** (GCOS) is a [database](#) run by the World Meteorological Organization, the Intergovernmental Oceanographic Commission of UNESCO, the United Nations Environmental Programme, and the International Science Council. The GCOS seeks to produce accurate, open climate data at the global level.
- **Disclosure Insight Action** (also known as CDP) maintains an [open data portal](#) for cities to disclose data regarding their environmental impact, with almost 1,000 cities currently publishing their data in an open format.
- OGP commitments on this topic can be found on the [Data Dashboard](#).

Guidance and Standards

While the list below is not exhaustive, it aims to provide a range of recommendations, standards, and analysis to guide reform in this policy area.

- The **Open Data Charter** has several publications with guidance on open climate data, including the [Open Up Guide for Climate Action](#) and a set of [open data strategies](#) published in collaboration with WRI.
- The **Greenhouse Gas Protocol** is a [multi-stakeholder partnership](#) of CSOs, businesses, and governments convened by the WRI and World Business Council for Sustainable Development. It provides the most widely used [standards](#) for GHG accounting to measure emissions. The standards target different actions and actors at the national level (in terms of [mitigation goals](#), [policies and actions](#), and the [GHG benefits](#) of mitigation projects) and at the [local](#), [corporate](#), [product](#), and [supply chain \(Scope 3\)](#) levels.

OPEN CLIMATE DATA

- The **Global Partnership for Sustainable Development Data** published a [guide](#) on open climate data for sustainable development and an [analysis](#) of the state of SDG data as of September 2023.
- Adopted in March 2022, the **United Nations Statistics Division** created a global set of [climate change statistics and indicators](#) that can be used as a framework for countries developing their own priorities and resources.
- The **United Nations Framework Convention on Climate Change** (UNFCCC) is a key producer of standards and guidance related to open climate data. For example, the UNFCCC published the [annual reporting requirements](#) for national GHG inventories that are part of the Paris Agreement. The UNFCCC also hosts a central [portal](#) of all documents submitted by national parties to the agreement.
- The **UNECE**, focused on Europe, published core [climate change-related indicators](#) created by the Conference of European Statisticians (CES). This set of indicators is based on the United Nations [System of Environmental-Economic Accounting](#), which can be used as a standard to develop national-level climate datasets. The UNECE also released [implementation guidelines](#) to provide additional support in using the CES core indicators.
- The **World Bank's** Global Facility for Disaster Reduction and Recovery published a [field guide](#) through its Open Data for Resilience Initiative, which outlines a process for governments and their partners to catalog existing datasets without giving up control to third parties. The guide also provides a way forward to engage communities, especially those at risk of climate change's negative impacts, in mapping data about their exposure to extreme weather events and other hazards.
- The **Ford Foundation**, in collaboration with the Engine Room and Ariadne, has produced a [set of resources](#) on the intersection of digital rights and environmental justice, which includes guidance on climate data-related challenges and opportunities.
- The **ONE Campaign** published a detailed [report](#) on the current obstacles preventing the necessary levels of transparency and oversight of climate finance data. The report also includes specific recommendations to address data gaps and how to accelerate funding for climate-related initiatives.