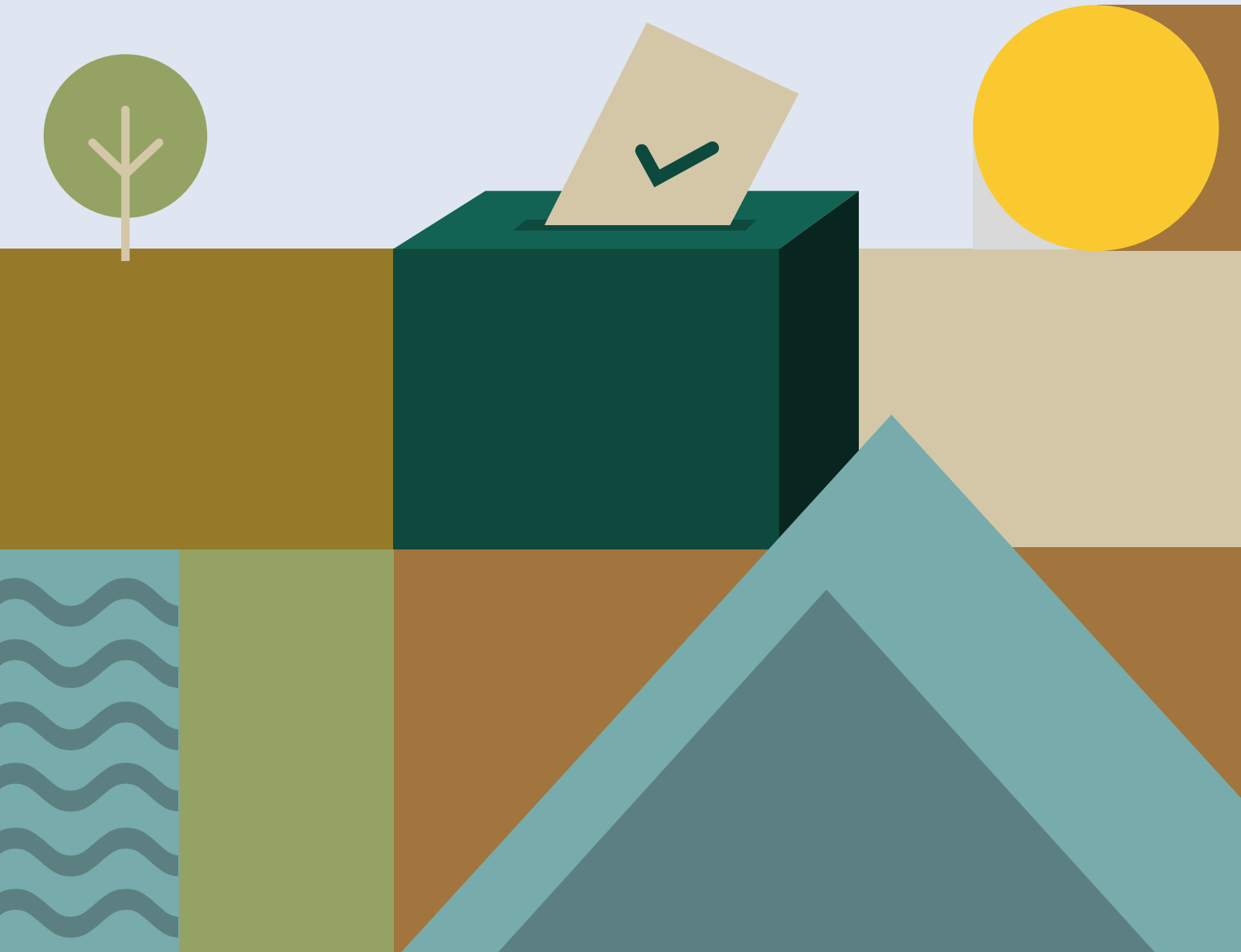
Elections for People and Planet

A practical guide to managing environmental impacts and risks of electoral processes



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Acronyms and abbreviations

CENI	Commission Électorale Nationale Indépendante (of Madagascar)
COMELEC	Philippines Commission on Elections
CO2	carbon dioxide
DAC	Development Assistance Committee
ECI	Election Commission of India
EMB	Electoral management body
EPEAT	Electronic Product Environmental Assessment Tool
EV	electric vehicle
FEO	Fijian Elections Office
FSC	Forest Stewardship Council
GHG	Greenhouse gas
ICCPR	International Covenant on Civil and Political Rights
ICT	information and communication technology
IDEA	International Institute for Democracy and Electoral Assistance.
IDP	Internally displaced person
IEC	Electoral Commission of South Africa
IFES	International Foundation for Electoral Systems
IPCC	Intergovernmental Panel on Climate Change
ISO	International Organization for Standardization
kWh	kilowatt-hours
OCV	Out-of-country voting
OCEO	Office of the Chief Electoral Officer of Canada
OECD	Organisation for Economic Co-operation and Development
PVC	Polyvinyl chloride
SDG	Sustainable Development Goal
UDHR	Universal Declaration of Human Rights
UN	United Nations
UNDP	United Nations Development Programme
UNFCCC	UN Framework Convention on Climate Change

Foreword

Environmental issues such as climate change, deforestation, pollution, and biodiversity loss are reshaping our world at an unprecedented pace and scale, impacting ecosystems, economies, and societies across the globe. Its implications extend far beyond rising temperatures and sea levels, and no country is immune to its effects.

UNDP's Strategic Plan recognizes both governance and a healthy planet as key to achieving the Sustainable Development Goals (SDGs). It is precisely the nexus between these two essential pillars of sustainable development that serves as the driving force behind this publication.

Credible, transparent, and inclusive elections are the cornerstone of democratic governance. Yet, they represent a massive logistical and operational challenge for any country—even under the most ideal conditions. Indeed, elections are often described as the largest endeavour a country undertakes in peacetime. As we have seen in numerous countries across nearly every continent, extreme weather events—intensified by climate change—are exacerbating these challenges, often pushing electoral authorities to their limits. In addition, large-scale electoral operations inevitably leave a significant environmental footprint. Fortunately, advances in technology and a wealth of global experience present ample opportunities to reduce the environmental impact of elections without compromising their quality or integrity.

"Elections for People and Planet" reflects this cross-cutting approach. It draws on interdisciplinary expertise to offer solutions and recommendations for all stakeholders, most notably Election Management Bodies (EMBs). It provides practical guidance to EMBs, policymakers, civil society, and development partners on how to minimize the environmental impact of elections without sacrificing their credibility, inclusiveness, or transparency. It also outlines how to prepare for extreme weather events and future-proof electoral operations against the effects of climate change.

Elections and climate change will continue to shape our world. This publication offers modest but important guidance on how to support a sustainable and democratic future for all.

Marcos Neto

UN Assistant Secretary-General
UNDP Assistant Administrator and Director
Bureau for Policy and Programme Support
Global Policy Network

Foreword

As President and CEO of the International Foundation for Electoral Systems (IFES), I am proud to introduce this groundbreaking collaboration between IFES and UNDP on the vital intersection of elections and climate change.

For nearly 40 years, IFES has worked in more than 140 countries to strengthen democratic institutions and ensure the integrity of electoral processes, often in close cooperation with UNDP. Over the course of those four decades, extreme weather events and natural disasters have become increasingly present in elections operations, planning and risk management.

Fiji is a prime example of the necessity for adaptation. Rising sea levels and increased flooding impacts its islands more than ever; in 2018, an election had to be postponed at 25 polling stations due to rains and flooding. Now, the Fijian Elections Office (FEO) identities a 'reserve' site for every polling station ahead of elections. This allows officials to respond quickly to sudden changes in conditions.

Citizen expectations globally have also shifted when it comes to public care for the environment. Elections involve considerable volumes of material and transportation, and electoral authorities can show leadership through sustainability measures in public spending and procurement. I commend the Electoral Commission of South Africa for its commitment to using recyclable and environmentally friendly materials across its operations.

Election stakeholders are resourceful and will navigate the increasingly complex ways that the climate is involved in democratic life. But they should not have to do it alone. IFES is honored to bring its deep expertise alongside UNDP to help equip governments, election management bodies, and civil society with strategies and practical solutions to ensure elections remain inclusive, credible, and secure in a changing climate. In the words of IFES' mission statement: together, we build resilient democracies that deliver for all.

I hope you find this effort as insightful as I did. I want to thank UNDP for their collaboration in this effort and their partnership across the years.

The threats we face are real—but so too are the opportunities for innovation, inclusion, and resilience.

Anthony Banbury

President & CEO
International Foundation for Electoral Systems (IFES)

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About this guide

Purpose

The purpose of this guide is two-fold: (1) to raise awareness about both the environmental footprint of electoral processes and the impact of climate change on elections, and (2) to help electoral management bodies (EMBs) and other stakeholders make informed choices based on environmental considerations while always maintaining the integrity of elections and broad-based public confidence.

Although intended primarily for election administrations, the guide is also aimed at supporting others with important roles to play in electoral processes, especially lawmakers. EMBs can only operate within the legal framework and their budgets. Parliamentarians can enact legislation and support changes, including through budgetary resourcing to help address environmental considerations. Changes will be more effective and easier to implement if they are part of a wider approach embedded in law and/or more broadly in public administration, and if there is consensus among all key stakeholders - including other state agencies involved in elections, political parties, civil society and development partners. This guide therefore is likely to be of interest to these stakeholders as well as for anyone with an interest in environmental matters and election processes

Understanding and responding to environmental and climate change factors as they affect electoral processes is increasingly important everywhere. However, election authorities and other stakeholders often already face multiple challenges, including financial constraints, hostile and combative political contexts, restricted operational settings, and the spread of misinformation and disinformation. Therefore, this guidance is intended to be flexible and adaptive depending on different needs, capacities and priorities. The many suggestions in this document are for consideration by EMBs and others according to their national context and specifics of their circumstances.

The guide follows a framework of intergovernmental agreements regarding climate change and the environment and offers examples of ways to address challenges and leverage opportunities. Real-life examples from different countries are included, though to date these are limited as this is an emerging area of focus. This guide is about election processes and does not refer to issues such as the political and personal positions of candidates, parties or elected leaders regarding the environment or climate change.

The guide has four sections that may be read in part or as a whole.

- → The first overview section looks at the relevance of the topic and includes 10 over-arching tips.
- → The second section looks at the bigger picture, with an introduction to key environmental issues, concepts and related frameworks.
- → The third section explores possible EMB actions, in terms of reducing the environmental footprint of elections (mitigation) and also holding climate-resilient elections (adaptation). It also looks step-by-step at how EMBs might develop strategies to address environmental issues and how they could seek to promote environmental actions by others. As is made clear in the section, although some actions will likely result in a greater reduction of negative impacts than others, all will contribute to mitigating them.
- → The fourth section considers other actors, including in regard to the strengthening of legal frameworks and the roles of political candidates, observers, development partners and suppliers.
- → The annexes provide six country case studies, information on related resources and a list of key terms and their definitions.

Throughout the document, **suggestions for possible EMB action are shown in green text.**

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1 Overview

Overview

This section provides a summary of the main concepts and take-away points from the guide. It includes three parts: a brief introduction to the topic, a list of 10 reasons why environmental issues are relevant to EMBs, and 10 key tips for EMBs on environmental impact management.

Introduction

Environmental degradation, including from climate change and biodiversity loss, is among the greatest challenges humanity has ever faced. As UN Secretary-General António Guterres has noted, "No country, rich or poor, is immune to the devastation inflicted by climate change, biodiversity loss, land degradation and pollution. These environmental crises are intertwined. They know no borders. And they are devastating ecosystems and livelihoods, threatening human health and undermining sustainable development."[1]

Environmental threats and consequences are almost certain to get worse in the future. According to the 2025 Global Risks Report issued by the World Economic Forum, experts ranked extreme weather events as the second highest short-term risk in terms of severity impact, with four threats from the environmental category—extreme weather events, critical changes to earth systems, biodiversity loss and natural resource shortages—taking the top four impact spots in a ranking of longer-term risks.[2] In different ways, these risks are already affecting all countries and people.

Some countries will be more focused on climate mitigation (reducing environmental footprints) and others more on adaptation (the process of adjusting to actual or expected climate change and its effects). Adaptation will be more important for countries—and by extension their EMBs and other stakeholders engaged in electoral processes—that are currently being affected disproportionately by the effects of climate change and/or are more vulnerable. Most of these countries are characterized as being part of the 'global south', including low-income countries, countries with high social inequality and island nations. Generally, countries with developing economies have contributed far less to global warming. For higher-income countries in the 'global north', reduction of environmental impact and decarbonisation (mitigation) is generally a higher priority, although adaptation pressures are increasing.[3]

Environmental issues are increasingly relevant to election processes in a number of ways. Firstly, because elections are regular large-scale events, often taking place nationwide, so reducing their environmental footprint can help mitigate the risk of climate change and environmental damage. Secondly, elections still need to be held in a context of increasingly severe impacts of climate change and environmental stress, for example with more heat and extreme weather events. Such environmental impacts often result in an increased number of internally displaced persons who have the right to retain their political voice through being able to vote and stand for elections.

Recognizing these challenges, Secretary-General Guterres observed, **"Some governments and electoral authorities are already adopting a 'climate lens' to address the effects of one-time or cyclical natural events and irreversible shifts in climate patters on electoral processes."**[4] Election administrators and lawmakers, among others, have vital roles to play in helping provide for electoral accountability and democratic leadership in the face of climate change. Such leadership is crucial for dealing with the destruction of our Earth system and the consequent impact on human security.

All countries and EMBs can contribute to improving the local and global environment. It may be argued that greater emphasis should be placed on reducing the environmental footprint of elections in countries with more resources and greater responsibility for emissions and other climate change contributors. However, the urgency of current and future environmental stresses, which ultimately are global in nature, underscores the need for every EMB to consider its environmental footprint.

Benefits can include reduced carbon emissions, consumption of non-renewable natural resources, waste reduction, and pollution of soil, water and air. These positive environmental changes can all affect the health and well-being of people and communities and the ability of a country to prosper and thrive. For example, reducing the volume of materials that end up in an unmanaged open landfill waste after elections (such as plastic packaging, promotional materials, and tarpaulins and banners) can help keep local water bodies and land clean.[5] Similarly, elimination of toxic chemicals in indelible ink reduces pollution risk (as well as specialist disposal costs).

10 reasons why environmental issues are relevant to EMBs

1

Election administrations can help prevent further carbon pollution and environmental degradation in their countries, and thereby also contribute to important global efforts.

Elections are nationwide operations that involve considerable volumes of material and transportation. Reducing the environmental impact of elections can help reduce carbon emissions and the pollution of local water, air and soil. Such efforts can also support countries' progress towards the Sustainable Development Goals (SDGs) and other national and global targets.

2

There may be new or enhanced obligations and public expectation for reduced environmental footprints, with access to a clean, healthy and sustainable environment now recognized as a human right.

As countries develop and update their climate commitments and policies, there may be increased statutory obligations requiring EMBs to take actions to reduce the environmental impact of elections and to publicly report and be accountable for what they do. For example, sustainability measures may be introduced in public spending and procurement regulations. Citizens may also come to expect more visible action on climate change from public authorities.

3

The climate crisis is increasingly complicating some electoral operations, with implications for planning, budgets, timing and inclusivity.

Extreme weather events and other natural hazards can complicate and hinder operations. Many cause displacement of people and even entire communities, and some threats such as dangerously high heat levels may deter voters (and especially those from already marginalized communities) from participating while also making it difficult for permanent and temporary staff to conduct their duties. Changing ecosystem patterns are resulting in more extreme and frequent weather events, which could affect when is the most feasible time of year is to hold elections. These are among the many considerations that mean that election processes need to be seen as critical infrastructure with continuity ensured through climate-related challenges and disasters.

4

People most affected by the impacts of climate change need to retain their political voice to avoid exclusion, particularly internally displaced persons (IDPs).

People and communities that experience the greatest disruption and losses from the impacts of climate change often have the least participation and representation in political and decision-making processes. The voices of those most affected should be heard to the fullest extent possible, including through the ballot box and as candidates in elections. Such participation can help strengthen the inclusivity and credibility of elections, contribute to sustainable solutions for IDPs, and reduce the risk of conflict. However, the inclusion of IDPs can be politically sensitive in some contexts and involves multiple practical challenges for lawmakers and EMBs.

5

Trusted elections and effective democratic governance are essential for dealing with climate change and associated human security challenges.

Elections are part of the democratic architecture that can help countries achieve sustainable and fair management of natural resources. Therefore, elections may become even more important for human security given the increased risk of conflict as a result of climate change. The increased conflict risk may also make it more likely that election administrations will face more confrontational and polarised environments as well as harder operational conditions.

6 **Responding to environmental threats is an opportunity for an EMB to improve its reputation, build public confidence, and contribute to a positive legacy.**

An EMB can demonstrate leadership, showing that it is responsible, is responsive to the changing context and is able to make forward-leaning decisions within its mandate. Attention to environmental issues, and in particular the needs and interests of future generations, can help build confidence in electoral participation, including from young people. As EMBs often have high profiles and electoral operations reaching every part of a country, there is an opportunity to show citizens environmentally responsible actions in practice. In addition to improving an EMB's reputation, such actions can help raise awareness of and engagement in electoral processes and leave a positive legacy beyond one or more electoral cycles. Similarly, actions by lawmakers and the government to support and enable an EMB's environmental measures (including with financing) can demonstrate their commitment to current and future citizens' needs.

7 **An EMB's environmental actions can have a positive broader influence on other actors.**

Environmental actions by EMBs can prompt and support other electoral actors to consider steps they could take to be more environmentally responsible. For example, an EMB may be able to recommend legal amendments and set exemplary policies and practices that could be introduced by other state authorities (particularly those involved in election processes such as security services and national procurement agencies). EMBs may also raise awareness and encourage parties and candidates to adopt environmental measures and reporting. EMBs undertake large-scale regular procurement and therefore can contribute to influencing incentives for vendors, which in turn may help develop and build markets for environmentally responsible products and services and possibly reduce their costs for all buyers.

8 **Environmental measures can help protect the health and well-being of employees and others involved in electoral processes.**

Election staff and other electoral stakeholders can be at great risk due to potentially physically dangerous conditions associated with the impacts of climate change and other environmental disruptions. For example, more than 30 poll workers died as a result of extreme heat during the multi-day 2024 national elections in India. A growing number of countries have laws covering maximum temperatures in the workplace for all workers, including those involved in all parts of electoral processes, with some regulations prohibiting outdoor work during the hottest part of the day (which is becoming hotter and longer in many places). Other environmental stressors include smoke and noise from generators and pollution from the dumping and destruction of waste materials after an election.

9 **Environmentally friendly actions may offer opportunities for financial savings as well as additional support.**

Some actions may not require any additional funding, while others may cost a lot upfront but save money in the longer term (for example, renewable energy and reusing of equipment). Additional funding may come from state budgets or through development partners, including through 'green financing' initiatives such as loans or investments that specifically support environmental improvements by offering preferential rates for projects that deliver environmental benefits. Some state and development partner funding may have stronger environmental conditions built in as a requirement for financing. Monitoring and recording increased costs associated with priority environmentally friendly actions may also be useful in helping countries successfully seek additional financial support internationally, especially if the longer-term environmental benefits are clearly outlined. This approach to additional financing could be particularly effective in a context of global inequalities and differentiated responsibilities regarding climate change (with industrialised countries having far worse pollution records).

10 **Not taking actions could have reputational risks, which may contribute to a loss of trust and disengagement.**

If election administrations do not acknowledge citizens' changing expectations as awareness grows, there is a risk of being seen as archaic and part of the problem rather than aligned with those that recognize the environmental threats and are seeking solutions. This could contribute to diminished trust in election processes and outcomes, which could risk democratic disengagement. For example, frustrations about "electoral garbage" have been expressed by members of the public and civil society groups in response to huge amounts of materials used and discarded (banners, signs, posters, etc.) and lack of effective waste management.

10 key tips for EMBs on environmental impact management

The following over-arching key tips are based on experiences to date of EMBs in this emerging field, points contained in international instruments and recognized good practice. They are further elaborated in other sections of this guide. An important underlying consideration for all these tips is EMBs' fundamental responsibility to uphold electoral integrity and confidence in election processes and their outcomes.

1 **Appoint a lead person or team in the EMB to be responsible for environmental matters throughout the electoral cycle.**

A lead person or team could identify and manage preliminary EMB activities and actions and consider possible future resource needs. Ideally, a dedicated position or team for environmental matters could then be built into the staffing plan, with a broader remit, and sufficient knowledge and training on environmental issues. This is a skilled role, ideally involving a multi-disciplinary skillset, and needs recruiting for accordingly. Examples of what the position or team could be responsible for include maintaining an overview of relevant government commitments and policies; engaging with other state agencies; and integrating environmental issues into EMB training, consultations, research, procurement specifications, operations, reviews and lessons learned activities. The lead person or team could also prepare public information and reporting.

2 **Undertake an environmental review.**

Such a review could focus on one of two main areas —(1) identifying ways to reduce the environmental footprint of elections, or (2) adaptation of election processes in a context of environmental degradation, including climate change—or on both. A review can cover overarching topics such as national policies, steps taken by other agencies and views of a range of stakeholders. For reducing the environmental footprint, research could include looking at legal requirements (national and international) and data on current practices. For adaptation to climate change (holding climate-resilient elections), research could include looking at data on the key environmental risks and challenges in the country, the potential impact of climate change on election processes, and possible measures to take to prevent or avoid those impacts.

3 **Consult widely, including with stakeholders such as communities vulnerable to the impacts of environmental degradation and civil society organizations that work on environmental issues.**

Consultation can help inform EMBs, as well as raise awareness and promote alignment among stakeholders. It is important to hear directly from communities about their challenges, needs and suggestions, and that efforts are made for the voices of those most at risk are central to the development of policies and plans. In particular, extra consideration should be given to the opinions of under-represented and disadvantaged persons at risk of displacement (for example, women, persons with disabilities and Indigenous communities). However and wherever consultation is undertaken, the process needs to be managed carefully so that it drives action and does not delay or weaken measures intended to lead to positive change.

4

Start early in an electoral cycle to allow time for discussion, development, pilot-testing and implementation of new environmentally friendly measures.

Discussions and decision-making early in an electoral cycle leave time for research, pilot testing and broader-based trials of any changes. Early work also can help build in time for possible legal changes and to secure resource allocations that may be needed. UN Secretary-General Guterres has noted that preparation and planning rooted in data-based understanding of potential climate impacts and risks can mitigate the impact of such disasters, including by reducing political tensions that could result from *ad hoc* decisions being taken.

5

Take a life cycle approach to budgeting and prioritize green procurement.

A life cycle approach to budgeting involves considering not just the immediate costs of products, but their total lifespan, including the production, maintenance and disposal of items. Procurement is the biggest opportunity for EMBs to reduce the environmental footprint of election processes. Green procurement, which refers to embedding environmental considerations into procurement, does not always need to be more complex and costly because engaging with suppliers may reveal that solutions are already available. Starting early in an electoral cycle enables time for research, trials and possible updates to EMB and/or national public procurement policies.

6

Try to minimize the environmental footprint of election processes while ensuring inclusive, transparent and credible electoral process.

It can be useful to think about the 4Rs: reduce, reuse, recycle and replace (find better alternatives). For EMBs and other electoral stakeholders, putting this approach into practice can include minimizing use of new materials and reusing what is already in circulation and favouring local goods and services when performance and environmental criteria can be met (for example for non-sensitive materials). Depending on the context, other environmentally friendly actions could involve reducing transport emissions (particularly use of air freight), using responsibly sourced paper (from deforestation-free or recycled feedstocks), and recycling materials (including any hazardous materials such as inks and electronics). For any such changes, it can be helpful for key stakeholders to be informed about changes being proposed and made and invited to see evidence when possible. This kind of information sharing and transparency can help the integrity of elections to be upheld and confidence built among stakeholders.

7

Develop plans for climate-resilient elections.

This may involve planning for election processes in contexts such as : (1) more challenging or potentially difficult weather conditions than usual (for example in hotter, colder or more humid conditions); (2) extreme weather events and natural hazards, such as fires, flooding and cyclones, occurring more frequently and with greater intensity; and (3) more displaced voters. This may involve changing materials used (for example, some may not work well with increased humidity); enabling polling staff to take heat breaks or shifting the timing of operations to cooler times of day; and more emergency planning, including preparing reserve polling locations and communications plans. Advance planning can also enable special measures to be considered for displaced populations, such as alternative voter registration arrangements and provisions in regard to personal documentation shortcomings.

8

Communicate, monitor and report.

It's critical for EMBs to prioritize openness and engagement in all new policies and practices. It is important to explain to stakeholders about existing and potential future environmental challenges, any new policies, and changes taking place so people know what to expect and the reasons for any changes. Other valuable EMB communications approaches could include providing data and explaining the bigger policy frameworks, so that stakeholders can see that EMB actions are consistent with scientific research and national and international frameworks; sharing findings from research, consultations and deliberative processes; and sharing the anticipated benefits from change, as well as information on what others are doing.

Ongoing review, monitoring and evaluation of environmental-related actions (for example, as part of a lessons learned process after an election) can help identify further opportunities for improvement and adjustments needed. It can also help form the basis of future budget requests. Providing public reporting on specific actions and changes, including the reasons for them and any impacts, can also help develop and strengthen a culture of environmental awareness in the EMB and beyond while also helping to justify future funding requests. An EMB's strategic plan and annual report are examples of where such public reporting could be provided.

9

Liaise with other agencies and EMBs to leverage multi-disciplinary engagement and benefit from existing tools, guidance and practices.

Multi-disciplinary engagement at the national and sub-national levels can enable EMBs to learn from others and build on knowledge and tools in use in other sectors. For example, ministries of environment or disaster management agencies may have locally adapted resources and systems that can be useful, and local authorities may have information on risks and resources in their specific areas and contexts. Engaging with election administrations in other countries can also be useful, as many are likely facing similar environmental-related challenges and can help reinforce positive practices. For example, "environmentally sustainable election practices" were recently committed to in an Asian Electoral Stakeholders Forum held in December 2023.

10

Promote environmental awareness and responsibility among other electoral actors.

An EMB can set an example to others through its own actions and therefore put environmental responsibility on the broader agenda. It may also be able to use its powers to promote actions by others. For example, an EMB could encourage political parties to publicly report on campaign materials used and recycling and waste plans. Similarly, for civil society organizations and other stakeholders undertaking voter education. In some jurisdictions an EMB may have authority to take stronger actions, such as banning the use of single-use plastic in all campaigning activities, or requiring information and/or actions from contenders on the retrieval of campaign materials for reuse or recycling.

2 The bigger picture

The bigger picture

This section provides background information and observations useful for making the case for EMBs and other electoral stakeholders to prioritize environmentally friendly actions and reform. It looks at environmental risks, concepts and standards, including the science and international agreements related to climate change and the environment in general; the close links between environmental trends and human rights; and relevant Sustainable Development Goals (SDGs).

2.1 The environmental context: current status, concepts and approaches

Current state of the environment

There is a triple planetary environmental crisis of climate change, pollution and biodiversity loss.[6] The term 'climate change' refers to long-term shifts in temperatures and weather patterns that in the long run will extensively alter the ecosystems that support life on the planet. Pollution takes many forms, including of air, water and land. (Air pollution is now the largest cause of disease and premature death in the world.) Biodiversity loss refers to the decline or disappearance of biological diversity, which is the foundation of life on earth.

In regard to climate change, there is intergovernmental and scientific agreement on it being substantially human-driven, requiring "rapid, far-reaching and unprecedented changes in all aspects of society".[7] In its Sixth Assessment Report, the Intergovernmental Panel on Climate Change (IPCC) stated, "It is unequivocal that human influence has warmed the atmosphere, ocean and land,"[8] adding, "The rise in weather and climate extremes has led to some irreversible impacts as natural and human systems are pushed beyond their ability to adapt."[9] A decade ago, global stakeholders including most of the world's countries committed to taking action in the 2015 Paris Agreement to stay "well below 2°C above pre-industrial levels" and to "pursu[e] efforts to limit the temperature increase to 1.5°C above pre-industrial levels".[10]

There is scientific consensus that numerous adverse effects of climate change can be anticipated. IPCC has observed with a high or very high degree of certainty that there will be increasing negative impacts at the global level, including inland and coastal flooding and storm problems, damage to infrastructure and animal and plant habitats, and displacement of humans. With varying degrees of certainty, adverse impacts of this sort are foreseen in all continents of the world.[11]

The Kunming-Montreal Global Biodiversity Framework (GBF) aims to halt and reverse the dangerous decline in nature, which threatens the survival of one million species and impacts the lives of billions of people.[12] Specifically, the framework seeks to halt and reverse biodiversity loss by 2030 and achieve the vision of "living in harmony with nature by 2050". The challenges are already extensive. The World Wildlife Fund's Living Planet Report 2024 found that monitored animal populations decreased by an average of 73 percent between 1970 and 2020.[13] Human activity is driving annual rates of species extinction that are running at tens to hundreds of times higher than the average rate over the last 10 million years.[14]

A reduction in the environmental impacts of human activity is needed to avoid the worst, unreversible effects of climate change. The UN Secretary-General Gutierres has called 2020 to 2030 the 'decade of action'. There is a limited time window over the remainder of this critical decade before the 1.5°C target

temperature increase is reached, and increases of any kind above that level remain huge threats due to various tipping points that could be reached that result in breakdown of systems. Human well-being depends on environmental sustainability because health, livelihoods and quality of life are closely connected to the health of ecosystems and biodiversity. This decade of action aims to accelerate progress towards achieving the SDGs related to the environment (see below).

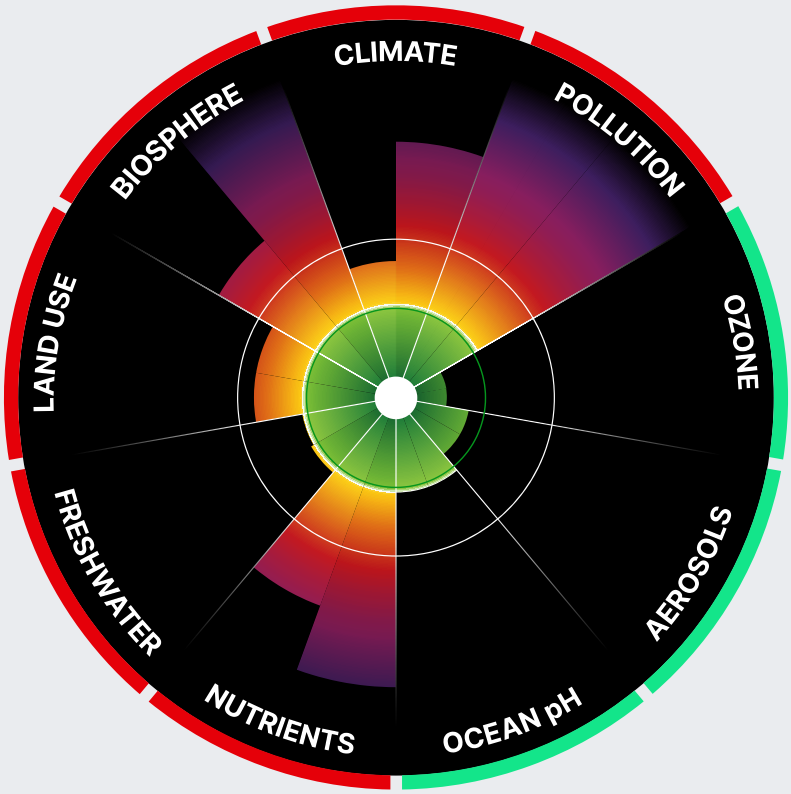
Key environmental concepts

The planetary boundaries concept is a scientific framework that defines 'safe limits' for human pressure on nine processes or systems that are a precondition for sustainable development because together they maintain a stable and resilient Earth.[15] Recent planetary 'health checks' show that limits (or 'boundaries') on six of the nine processes have been crossed, which indicates they require urgent attention.[16] The six for which defined 'safe limits' have been crossed are listed below. (Figure 1 provides for an illustration of the results of the most recent health check results against the nine systems and processes, as of the time this guide was being prepared.)

*Climate ch*ange. For example, global average temperature increases and extreme weather events. This boundary is closely interlinked with the others, mutually reinforcing the negative effects.

- → Biosphere integrity. For example, loss of biodiversity, ecosystems resilience and the capacity of ecosystems to support life, including humans.
- → Land system and habitat change. For example, changes to how land is utilized from its original state because of deforestation, urbanization, industrialization and other changes.
- → Novel entities. For example, the introduction of man-made materials into the environment such as plastics and 'forever chemicals', a large family of human-made chemicals that were given that name because they do not break down in the environment. Many forever chemicals are toxic to humans and wildlife.
- → Freshwater change. For example, freshwater pollution and use for industrial purposes leading to water stress.
- → Biogeochemical flows. For example, the cycles of chemicals in the environment that support the right balance for air, water and nutrients essential for life.

Figure 1. **Planetary Boundary Health Check results, as of May 2025**[17]



Greenhouse gas (GHG) emissions

Various EMBs have expressed interest in reducing their GHG emissions. These emissions refer to the release of gases into Earth's atmosphere that intensify the greenhouse effect, which is a natural process that warms the Earth. Greenhouse gases play a significant role in climate change because they trap heat from the sun, preventing it from escaping back into space. The key drivers of GHG emissions are use of fossil fuels, agricultural practices, industrial activities, deforestation and waste management.[18]

There are seven greenhouse gases, which collectively are often also referred to as 'carbon emissions':

1. *Carbon dioxide (CO2),* which is primarily produced from burning fossil fuels, deforestation and various industrial processes.
2. *Methane (CH4),* which is released during the production and transport of coal, oil and natural gas, as well as from livestock and other agricultural practices.
3. *Nitrous oxide (N2O)*, which is emitted from agricultural and industrial activities, as well as during combustion of fossil fuels and solid waste.
4. *Hydrofluorocarbons (HFCs)*, which are synthetic gases used in refrigeration and air conditioning.
5. *Perfluorocarbons (PFCs),* which are emitted during aluminium production and other industrial processes.
6. *Sulphur hexafluoride (SF6),* a gas used in electrical insulation.
7. *Nitrogen trifluoride (NF3)*, a gas used in electronics manufacturing.

In the 2015 Paris Agreement, countries committed to reducing their GHG emissions and reporting progress. Reductions are established by each country in Nationally Determined Contributions (NDCs), with progress reported on a regular basis through Biennial Transparency Reports (BTRs).[19] To date, most countries have begun implementing systems for tracking and reducing GHG emissions associated with government spending and activities. If they are not already integrated or otherwise included in such tracking and reduction

systems, electoral processes and associated budgets are increasingly likely to need to be aligned to these national priorities and commitments.

Carbon emissions are currently categorised into three 'scopes':[20]

Scope 1 *– direct GHG emissions.* These come from sources owned or controlled by an entity such as an organization, company or institution. They include emissions from burning fossil fuels in vehicles owned by an entity and using energy from on-site combustion facilities Heating or cooling in EMB offices fall within this scope (for example, using heating oil, natural gas or refrigerants in cooling equipment).

Scope 2 *– indirect emissions.* These result from the generation of purchased electricity, heating and cooling consumed by an entity and provided by an external supplier. So, when an EMB pays for electricity, the emissions associated with producing that electricity fall under scope 2.

Scope 3 *– other indirect emissions along the value chain.* These are emissions not covered by scopes 1 and 2. These are most often the largest portion of an entity's total GHG emissions. For an EMB, examples could include emissions from the production of purchased goods and services, transportation of electoral materials, staff travel and waste disposal. Also included in this category are emissions from people travelling to take part in electoral processes.

How to approach reducing environmental impact

Impacts on the environment from electoral processes can be adverse or beneficial. Adverse impacts could include increased global deforestation resulting from the use of natural resources for paper, worsening global warming from GHG emissions as a result of fuel use for transport, and damage to biodiversity from the polluting effects of chemicals used in printing and indelible ink. A beneficial impact by an EMB could be increasing public awareness about environmental management.

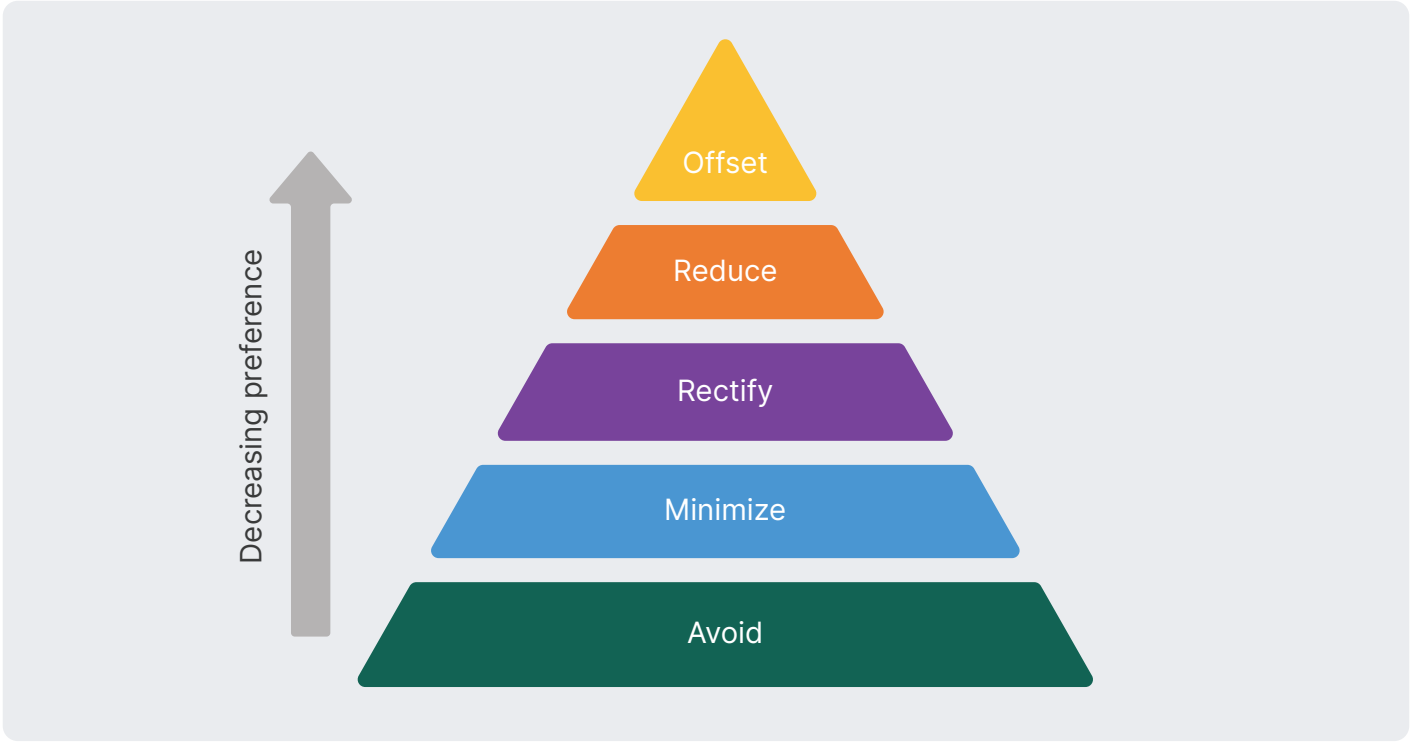
There is an established, expert-driven overall framework for addressing the environmental impact of human activities in order of preference that could be useful for EMBs and other stakeholders to review. This model is often referred to as a ***mitigation hierarchy framework***. It ranks activities from the most preferential (and effective) at the bottom to the least preferred ones (at the top). This approach is part of the practice of environmental impact assessment (EIA) methodology, commonly used internationally in both the public and private sectors.[21] The most valuable action is ***avoiding*** creating adverse environmental impacts, in other words not undertaking activities that generate emissions or waste. For example, not purchasing additional items but repurposing something that already exists is an effective avoidance approach.

When such avoidance is not possible, ***minimizing*** impact where it cannot be avoided is next in order of preference. This involves reducing the amount of resources utilized as part of electoral activities and being efficient. Examples could include reusing banners over multiple electoral cycles, extending useful life, reducing waste, using less energy in offices and warehouses, and not printing more copies of papers than are needed for electoral activities.

The next preference is to ***rectify***, which involves restoring or replenishing the resources or impact that has been caused. An example could be cleaning up litter left in the vicinity of a polling station so that soil is not contaminated and animals do not mistake the pieces for food. The fourth preference in order of value is ***reduction*** measures, which involves reducing the associated impacts with a range of possible measures.

In addition to the overall mitigation hierarchy framework, there are recognized hierarchies with more specific application. For example, Figure 2 illustrates a mitigation hierarchy in regard to waste and transportation.

Figure 2. **Waste and transportation mitigation hierarchy**



Offsetting is a well-known concept and approach for environmental action that is often used in both the public and private sectors. When it comes to climate impacts, offsetting involves taking indirect action to compensate for the carbon footprint of activities by paying for projects that reduce, prevent or capture an equivalent amount of GHG emissions elsewhere. There are various terms and types of such projects that have important distinctions but are often referred to as 'offsetting', such as climate compensation, carbon removal, nature-based solutions investment, etc. Such projects may include tree planting (for example with mangroves), reforestation schemes, and physical carbon capture and storage, to name a few examples.

Projects vary in their effectiveness, nature and quality, and it can be challenging to make an accurate assessment of them.[22] Carbon capture and storage techniques have not been proven to work at the necessary large scale and are criticized for promoting an over-reliance on future technology, rather than reducing pollution today.

Regardless of the projects or schemes used, carbon offsetting should be used as a supporting solution only, not as a substitute for emissions reduction actions. For EMBs, the priority should be on reduction of environmental impact caused by the electoral institution's activities. When these opportunities have been exhausted, then offsets may be considered to address residual emissions (those that are difficult to avoid or eliminate due to financial, technological or other limitations). Best-practice guidance is available for EMBs or their suppliers that choose to use offsets. They are encouraged to follow the guidelines set out in Oxford Offsetting Principles and to ensure that any carbon credits procured are aligned with criteria set out under the High-Integrity Carbon Market Initiative.[23]

The environment is central to the concept of 'sustainability' as it is commonly understood worldwide. Sustainability is often used as a shorthand for 'sustainable development', which the UN World Commission on Environment and Development defined as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs."[24] This includes three dimensions:

- *Environment:* the preservation of natural resources and ecosystems, addressing critical issues such as climate change, biodiversity loss and pollution. The sustainability emphasis is on the need to use resources in a way that does not deplete them for future generations.
- *Economics:* creating economic systems that are resilient and capable of supporting long-term growth without causing environmental degradation. Sustainability action includes practices that promote efficient resource use and reduce waste.

→ *Society:* social equity, community well-being and the importance of human rights. This sustainability dimension refers to all individuals having access to the resources they need to thrive and the promotion and establishment of inclusive societies.

2.2 The human rights context and intersection with environmental issues

It is useful for EMBs to know about the broader international human rights and environment contexts and the commitments made by respective states that may be relevant to their work. This sub-section therefore looks at the links between human rights, particularly political rights, and environmental issues, including those directly associated with climate change.

The right to a healthy environment is widely recognized as a human right. In 2022, the UN General Assembly passed a resolution with a wide majority that recognized "the right to a clean, healthy and sustainable environment as a human right".[25] The right is generally understood to include substantive elements (such as clean air, healthy ecosystems and a safe climate) and procedural elements (including access to information, public participation and justice).[26] The right to a healthy environment is now legally recognized in more than 80 percent of UN Member States through constitutions, legislation and regional treaties.[27]

The exercise of political rights is critical for protection of the environment. The right to political participation is a human right recognized in the Universal Declaration of Human Rights (UDHR) and subsequent treaty provisions.[28] Other UN bodies have noted its importance more broadly across the full spectrum of rights, including the Human Rights Council stating, "Participation is a basic human right in itself [and] a precondition or catalyst for the realization and enjoyment of other human rights."[29] The 2022 UN General Assembly resolution noted that the "exercise of human rights, including… to participate effectively in the conduct of government and public affairs… is vital to the protection of a clean, healthy and sustainable environment."

There is growing recognition that a human rights-based approach to climate action, including addressing the impacts of climate change, is both a legal obligation and a cornerstone of effective efforts. Human rights bodies are increasingly referencing climate change, for example, the UN Human Rights Committee for the International Covenant on Civil and Political Rights (ICCPR) is making a greater number of references with increasingly specific recommendations.[30] To date participation in climate policy and decision-making has been one of the issues regularly addressed by human rights mechanisms. It is agreed that climate change "disproportionately affect persons, groups and peoples already in vulnerable situations."[31]

Climate change is increasingly impacting human security, as a threat multiplier intensifying existing problems and risks, with implications for political rights. Climate change makes existing social, economic and environmental challenges even worse and more difficult to address, and in some situations many of these challenges can threaten human, national and international security.[32] As these connections indicate, climate change can have a significant impact on political security, one of the seven basic components of human security identified by the United Nations.[33]

There is a general emphasis on proactive steps being taken by state authorities. For example, according to the UN Framework Convention on Climate Change (UNFCCC), which was agreed more than three decades ago, "Parties should take precautionary measures to anticipate, prevent, or minimize the causes of climate change and mitigate its adverse effects."[34] More broadly, there is increased risk of legal action against bodies not taking appropriate steps, with a growing number of cases in recent years using environmental and human rights legal frameworks.[35] Also, it is likely that environmental considerations may come to be specifically referenced in election-related agreements and documents. For example, the Kathmandu Declaration on Strengthening Democracy and Promoting Electoral Integrity Through Electoral Reforms in Asia, from December 2023, referred to and elaborated on "environmentally sustainable election practices".[36]

Consultation, participation and special measures

All people have the human right to participation in public affairs, including with respect to environmental issues such as climate change.[37] Participation lies at the heart of a human rights-based approach to climate issues and is embedded in international agreements on the environment such as the Aarhus Convention (an international treaty adopted in 1998) and the Escazu Agreement (a regional agreement in Latin America and the Caribbean adopted in 2018).[38] Consultation is central to participation and therefore warrants being undertaken widely by EMBs when developing policies and procedures, including with communities experiencing the greatest effects of climate change or most at risk of future negative impacts.[39] Similarly by lawmakers when developing election-related legislation.

There is wide agreement on "additional measures" being taken for those who are most impacted. For example, a 2022 UN General Assembly resolution said that "additional measures should be taken for those who are particularly vulnerable to environmental degradation."[40] It has also been recognized that those most affected by climate change often face barriers to their participation and representation in political and decision-making processes.[41] A wide range of people and groups should be considered vulnerable in this respect, including IDPs and communities going through planned relocations as a result of environmental degradation.[42]

The Common but Differentiated Responsibilities and Respective Capabilities (CBDR-RC) principle in the UNFCCC acknowledges the varying positions of different countries regarding responsibility for climate change and domestic capacity to take action. This principle does not mean that some countries (or the EMBs in them) can or should decide to do nothing. The UNFCCC is explicit that all states have a shared obligation to address environmental destruction and also calls for all parties to "protect the climate system for the benefit of present and future generations of humankind, on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities."[43]

There is a growing focus on the needs of future generations. The 1992 UNFCCC agreement refers to "the benefit of present and future generations" and the landmark 2015 Paris Agreement, which had near-universal support, refers to intergenerational equity. According to the Principles of Effective Governance for Sustainable Development, which focuses on achievement of the SDGs, administrative acts should "balance the short-term needs of today's generation with the longer-term needs of future generations." [44] And more recently, at the 2024 Summit of the Future, world leaders adopted the Pact for the Future and Declaration on Future Generations, which includes commitments related to addressing climate change and accelerating efforts to restore, protect, conserve and sustainably use the environment. [45]

The Summit of the Future's Declaration on Future Generations includes an agreement to follow the guiding principle of creating and maintaining clean, healthy and sustainable environments where humanity lives in harmony with nature. In practice, this means that signatories committed to prioritize urgent action to address critical environmental challenges and implement measures to reduce disaster risk and build resilience. Included within that overall vow is a commitment to implement, institutionalize and monitor through a whole-of-government approach to coordination that safeguards the needs and interests of future generations.

Sustainable Development Goals (SDGs)

Human rights have been widely described as essential to achieving sustainable development. The 2030 Agenda for Sustainable Development envisions a world "of universal respect for human rights and human dignity" where using a human rights-based approach means that no one is left behind in development progress. Over 90 percent of the SDG targets overlap with human rights obligations. The SDGs and related targets that are among the most relevant to effective environmental action by EMBs and other electoral stakeholders include:

SDG 13: Take urgent action to combat climate change and its impacts.

- Target 13.1: Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries.
- Target 13.2: Integrate climate change measures into national policies, strategies and planning.
- Target 13.3: Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning.

SDG 12: Ensure sustainable consumption and production patterns.

- Target 12.2: By 2030, achieve the sustainable management and efficient use of natural resources.
- Target 12.4: By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment.
- Target 12.5: By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse.
- Target 12.6: Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle.
- Target 12.7: Promote public procurement practices that are sustainable, in accordance with national policies and priorities.

SDG 15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.

All targets in this SDG are highly relevant for the environment.

SDG 16: Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels.

- Target 16.7: Ensure responsive, inclusive, participatory and representative decision-making at all levels.

The following other SDGs are also relevant for EMBs who can help governments in making progress toward these targets.

SDG 3: Ensure healthy lives and promote well-being for all

- Target 3.9: By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination.

SDG 6: Ensure availability and sustainable management of water and sanitation for all

- Target 6.3: By 2030, improve water quality by reducing pollution, eliminating dumping, and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally.

SDG 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

- Target 9.a: Facilitate sustainable and resilient infrastructure development in developing countries through enhanced financial, technological and technical support to African countries, least developed countries, landlocked developing countries and small island developing states.

SDG 11: Make cities and human settlements inclusive, safe, resilient and sustainable

- Target 11.3: By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries.

3

Election management bodies (EMBs)

Election management bodies (EMBs)

This section focuses on what EMBs can do regarding environmental mitigation and adaptation. It starts by considering how EMBs can reduce the environmental footprint of elections (mitigation) and hold climate-resilient elections (adaptation). That is followed by a step-by-step look at the development of EMB strategies related to the environment. The section concludes with a discussion of possible EMB promotion of environmental actions by other electoral stakeholders.

3.1 Reducing the environmental footprint of elections (mitigation)

This part of the guide considers practical actions EMBs can take to reduce the environmental footprints of election premises and activities. Some of the suggested steps are overarching and others are more targeted actions, and some are likely to result in a greater reduction of negative impacts than others. However, all of the suggested steps can help reduce greenhouse gas emissions and other types of damage to the natural environment.

The United Nations Development Programme (UNDP) and the International Foundation for Electoral System (IFES) have some experience of supporting EMBs in reducing the environmental footprint of elections. UNDP's Office of Procurement Governance Team has explored opportunities for sustainable procurement in elections and UNDP electoral assistance projects have also recently included some components related to reducing environmental footprints.[46] IFES has developed the Reducing the Environmental Footprint of Elections (REFE) scorecard, a self-assessment tool for EMBs that covers 10 categories.

General approach

The overarching aim for EMBs when seeking to reduce the environmental footprint of election processes is to address as many different environmental impacts as possible. They may include the following, for example: air, land and water pollution; toxicity to nature and humans; generation of waste; GHG emissions; water use (particularly in water-stressed areas); and use of non-renewable and scarce natural resources.

Following the principles of a 'circular economy' can help to reduce the environmental footprint. A circular economy is a concept and approach aimed at minimizing waste and promoting sustainable use of natural resources, and also regenerating nature.[47] It emphasizes the importance of environmental considerations at every stage of a decision or product. Key stages include designing for durability and longevity; reducing the amount of materials used; sharing and/or leasing items where possible; and recovering, reusing, repairing, refurbishing and recycling existing materials and products for as long as possible.

EMB strategic planning is an opportunity to work towards medium- and long-term environmental outcomes. It may be easiest to start by making changes to office and warehouse arrangements. However, electoral activities are likely to have the more significant environmental impacts overall due to the size of operations involved. In general, the most substantial impacts are likely to be associated with procured goods and services, delivery of electoral operations, and management of end-of-life of materials.[48]

The remainder of this section offers recommendations for some general ways to reduce environmental impact. Later sub-sections in Section 3 discuss more specific ways to incorporate circular economy principles in procurement and electoral operations. They include cross-cutting sub-sections on paper and printed materials, packaging, transportation and travel. These cross-cutting sections refer to possible ways to reduce impact that may be relevant in the areas of procurement and electoral implementation.

Possible ways for EMBs to reduce environmental impact:

→ **Move to a life cycle approach to budgeting.** This involves considering not just the immediate costs of items, but also other costs associated with the total lifespan of products. The approach is sometimes known as the 'total cost of ownership' (TCO), which takes into account purchase costs, maintenance and end-of-life expenses. To date, EMB budgets and decisions generally have often focused more on immediate operational needs rather than post-election actions, such as collection of materials, storage for reusability, disposal of materials and recycling. A life cycle approach typically involves factoring in extra budget for initial purchases, storage and waste management. However, savings may be made over the long-run because of the need to buy fewer items in future elections. Introducing a life cycle approach typically involves considering broader government policies and procurement requirements and may also involve liaising with other government agencies about approaches to spending and budgeting.

→ **Seek to implement the 4Rs: reduce, reuse, recycle and replace (with alternatives having less of an environmental impact).** This strategy can help an EMB to better utilize current and future resources and reduce overall environmental impact.

→ **Include information on general spending approaches in EMB policy documents and strategic planning, as well as operational planning.** This will help promote a coherent and lasting approach to spending with environmental considerations, including use of natural resources.

Reduce:

→ **Reduce the volume of materials purchased.** Effective planning and forecasting can help lower the risk of over-purchasing. Other possible actions include some voter education being undertaken electronically rather than with paper (as long as there is no increased risk of marginalization or exclusion of groups of voters) and printing on both sides of paper as standard. It may also be that ballot papers could be slightly smaller, which would result in a reduction of the volume of paper needed overall. (Any consideration of reducing the size of ballot papers must take into account compliance with regulations; whether the options remain fully readable, including by persons with disabilities; and ensuring that key stakeholders are in agreement.)[49]

→ **Hire, lease or borrow rather than purchase.** Hiring can be an alternative to buying items that are only used for a short period for specific events or that may often require servicing and/or significant storage space. For example, electronic equipment could be leased, such as printers, shredders and computers. EMBs in other parts of the country (e.g., states or provinces) and even other countries might also be able to reliably provide certain materials on loan if there is effective coordination, for example for packing boxes and polling booths. In 2020, the Australian Election Commission (AEC) replaced branding with plain 'raw' brown cardboard for queuing equipment, ballot paper issuing tables, voting screens, ballot boxes and recycling bins.[50] Those steps were intended to make the products more easily shared with state and territory election management bodies for state and local elections; also, such generic products are easier to recycle.

→ **Buy in bulk to reduce packaging.** For example, at an office level, cleaning products can often come in large containers.

→ **Minimize water use.** For example, at an office level, install low-flow faucets in bathrooms and encourage staff to use water responsibly, particularly in countries with water stress.

Reuse:

→ **When possible, choose reusable and refillable options over single-use ones.** This may include, for example, packaging materials that can be used repeatedly (bags or boxes rather than single-use plastics); banners that work for multiple elections; and staff badges and uniforms that can be reused. At an office level there could be refillable printing cartridges, refillable pens and water fountains. Staff can also be encouraged to use reusable cups, portable mugs and water bottles; reusable coffee pods or filter coffee (rather than single-use pods); and loose-leaf tea (rather than individual tea bags, which can be a source of microplastic pollution).

→ **Maintain and reuse equipment.** This could involve good warehousing so that election materials such as ballot boxes, storage containers, voting booths and registration and polling items are in good condition for future elections. Another type of activity could be reusing furniture from other government offices after refurbishment.

→ **Repair items.** This involves maintaining and fixing items instead of throwing away, for example digital technology products and office furniture. Regular stock-taking can help identify items that need repair ahead of an electoral activity.

Recycle:

→ **Buy products made with recycled content.** Examples of items that could be in this category include recycled paper (for EMB posters and leaflets), plastic stationary (for EMB offices and electoral sites), and textiles (for visibility material and packaging). The degree to which recycled materials can be used depends on whether available markets can provide products that meet the required functionality and quality.

→ **Favour items made from materials that can be easily taken apart and recycled.** An example of what this means in practice is looking at the materials used on cardboard voting screens to see whether they have recycling potential. At an office level, it can involve using notebooks with threads or rings instead of metal staples, and avoiding use of glued, laminated and plastic-coated items (including coffee cups).

Replace:

→ **Digitalize some activities and take steps toward becoming a mostly paperless office.** For example, where legal systems permit, there could be electronic signatures for contracts or candidate nominations. Copies of results tabulations can be scanned and shared publicly online. Internal newsletters can also be made digital.

→ **Use tree-free paper for office suppliers.** Tree-free paper options include bamboo, sugarcane, hemp, textile waste and cotton rags, rice and straw. They can be used for many purposes, including packaging, stationery, business cards, toilet paper and kitchen towels.

→ **Favour food that is local and plant-based.** This can apply, for example, to food given out during voter education or staff training. While eliminating meat is not always possible or culturally appropriate, increasing the proportion of plant-based food can offer significant savings in environmental impact. From an environmentally friendly standpoint, it is ideal to use food that is locally grown, organic and in-season. People could also be asked to bring their own cutlery and plate/bowl to avoid using disposable items.

Green procurement

Purchasing offers the biggest opportunity to influence the environmental footprint of EMB actions. **Green procurement is a process in which institutions and organizations seek to buy and use goods and services with a reduced environmental impact throughout their life cycle.** Purchasing materials and services with better environmental profiles (such as recycled paper over virgin paper and reusable packaging rather than single-use disposables) can help reduce the overall environmental impacts of elections and benefit communities beyond elections. Such actions may align with government climate mitigation and nature-protection agendas.

Environmental considerations in procurement need to take into account the importance of upholding electoral integrity and stakeholder confidence, as well as value for money. All EMB procurement actions have practical implications and there can be political sensitivities around many decisions. Therefore, it is wise to have strong evidence basis for decisions and to engage with stakeholders regarding more important or wide-ranging ones. Buy-in and support are likely to be easier to obtain when EMBs identify 'greener' products that perform equally well to less-environmental options and are positively perceived by users and stakeholders as equivalent or better.

Integrating procurement considerations into strategies and planning early in the electoral cycle can increase opportunities for effectiveness. Starting early in these areas can enable procurement teams to undertake market research and to test. It also allows more time for engagement and discussions with any government procurement agencies and for considering whether any regulatory changes are required (although

this is unlikely, because rules generally do not prevent procurement of more environmentally friendly options). Early action also enables greener options to be considered, such as transportation by sea rather than air freight, which is also more economical.

Availability and costs can be barriers to purchasing more environmentally friendly products and services, but there can also be benefits and opportunities. Some more environmental options, including items that are designed to last over multiple electoral cycles, may have higher start-up costs but are cheaper over the long term. It is also worth considering changing environmental conditions that may need to be factored in, for example the potential value of stronger and more resistant warehousing to withstand risks from increased extreme weather occurrences.

Some cost-benefit ratios are changing, in particular regarding energy and electricity. For example, the cost of solar photovoltaic (PV) technologies has fallen considerably over the last 10 years. In general, the steep decline in costs of renewable power, which are now often below the costs of fossil fuel options, underscores the fact that there can be long-term savings and opportunities in environmental choices.[51]

In addition, using more environmentally beneficial products may in some instances help contribute to electoral integrity. For example, more durable transportation materials may make sensitive items less at risk from improper human interference as well as damage from difficult weather conditions.

The market for greener products varies from country to country. If a preferred item or solution is not available, however, that does not mean it will not be in the future. Generally, signalling interest to suppliers in sustainability considerations in purchasing can encourage them to change or update their offerings over time and demonstrate actions they are taking to accommodate customers interested in environmentally friendlier options. In this way there may be more procurement alternatives available in the next electoral cycle.

A green approach to procurement is consistent with the UN Global Compact and the UN's Guiding Principles on Business and Human Rights. The UN Global Compact has 10 principles related to corporate sustainability.[52] Three of them refer to the environment, calling for businesses to support a precautionary approach to environmental challenges, undertake initiatives to promote greater environmental responsibility, and encourage the development and diffusion of environmentally friendly technologies.

The UN's Guiding Principles on Business and Human Rights has increasing relevance given that the right to a healthy environment is widely recognized as a human right.[53] One operational principle is that business enterprises "should carry out human rights due diligence. The process should include assessing actual and potential human rights impacts, integrating and acting upon the findings, tracking responses, and communicating how impacts are addressed." Reference is made to environmental and social impact assessments, and the document also includes a foundational principle stating, "States must protect against human rights abuse within their territory and/or jurisdiction by third parties, including business enterprises."

Possible ways for EMBs to reduce environmental impact of procured goods and services:

→ **Do an analysis of environmental issues in goods and services procured.** For example, the analysis could focus on identifying procurement items with a high environmental impact, including single-use items (such as packaging); virgin materials (such as paper for office use, forms and ballots); potentially excessive materials (such as EMB promotional materials); and items and activities that rely on fossil fuels (for power supplies and transport). An analysis would likely involve looking at the supply chains, for example to determine whether paper is sourced from deforested locations, and the environmental profile of individual suppliers can also be considered. The process may involve some investment of time and resources because it requires collecting sufficient quantity and quality of information about supply chains that may not typically be available upfront.

→ **Look at sustainable procurement guidelines and standards issued by public institutions and certifying bodies**. The number and type of these documents have increased in recent years and provide a useful reference point. (Examples of such guidelines and standards can be found in Annex 2.)

→ **Integrate scored and weighted environmental performance into supplier evaluation as part of procurement processes**. Scoring suppliers on their environmental credentials can help identify those that are likely to align with more sustainable thinking in the longer term and may already have more sustainable solutions available.

→ **Encourage suppliers to provide details on their environmental policies and actions, and research sector-wide initiatives.** This can involve asking suppliers about corporate-level activities and also about specific materials, and suppliers can be asked to demonstrate changes they have made (for example, switching to vegetable ink for printing). Responses to such requests can give EMBs more comparative information and enable them to make more informed decisions.

These requests are generally best made as part of early market-sounding exercises as well as later in the procurement tendering process. General questions can be asked in relation to:

- carbon footprints
- durability
- recyclability of materials in the country or area where they are to be used
- use of restricted and harmful substances
- disposal plans for any toxic materials
- use of recycled content
- repairability and maintenance
- source of materials
- energy efficiency
- environmental standards and certifications (see Annex 2)

→ **Set out specific environmental expectations and requirements for each category of purchasing.** The type and scope of requirements depend on market availability and budgets, but introducing some criteria can help open dialogue with suppliers about what alternatives to standard products might be available. Some examples related to plastic can be seen in a recent paper by the Westminster Foundation for Democracy (WFD), such as replacing polyvinyl chloride (PVC) posters with those made from recycled paper or using cloth for banners.[54] Additional related criteria might include carbon footprint information to be provided for goods supplied, confirmation of no deforestation in paper supply chains, and energy efficiency ratings for equipment to meet a minimum threshold.

→ **Give incentives to suppliers that are able to offer the lowest environmental footprint.** This might mean offering higher evaluation scores, a longer-term contract and/or some preferential terms in response to specific environmentally beneficial actions. Any such incentives and clear definitions of what constitutes lower environmental impact (compared to a regular product) should be established in the tender available to all bidders upfront. Being transparent and detailed from the beginning can also help suppliers understand an EMB's interest, and objective criteria and guidelines can help reduce risk of actual or perceived corruption in the procurement process.

→ **Consider independent verification of sustainability claims for high-risk items where available (likely in the future).** Environmental certification that includes organizations' complete supply chain is not currently available for some sectors. But in the future, there may be increased emphasis on independent verification and monitoring of suppliers' sustainability claims as part of due diligence.

→ **Favour locally or regionally made materials and products where the market exists and meets quality requirements.** Local sourcing helps support local businesses, reduces travel-related emissions, and encourages markets to use locally available materials that are more likely to have supporting waste collection and processing infrastructure. Local markets may for example be suitable for printing and promotional materials.

This approach to procurement may be visualized in a procurement cycle shown in Figure 3.[55]

Figure 3. **Procurement cycle for election administrations**

The following sub-sections include more specific information on different purchasing categories.

Election-specific materials

Indelible ink

Key environmental impacts: land and water pollution, toxicity to nature and humans, generation of waste, GHG emissions.

Traditional indelible inks contain silver nitrate. While effective for marking voters to prevent multiple voting, it can pose health and environmental risks when being used and during disposal. If the ink is disposed of without specialist treatment, it can contaminate soil and water and be toxic to humans and wildlife. Such damage is often either expensive to repair or reverse or cannot be fixed at all. Indelible ink therefore should be disposed of according to national hazardous waste regulations. Moreover, when transported by air, it needs to be packaged according to IATA Dangerous Goods Regulations.[56] Another factor that makes indelible ink environmentally problematic is that it is difficult to reuse because it has a limited shelf-life once opened.

Possible ways for EMBs to reduce environmental impact:

→ **Consider use of a non-toxic alternative.** Inks without silver nitrate content have been tested to perform satisfactorily, although they are not equally effective in terms of the duration of time that the stain remains indelible. Non-toxic alternatives have the advantage of not needing specialized waste disposal and being more cost-efficient. Use of ink without silver nitrate would need to be tested and discussed with stakeholders, given the importance of indelible ink as a trust building measure in an electoral process.

→ **Reduce the volume of ink bought.** Good storage conditions can help ink that is purchased to be fully used. Thorough calculations can help EMBs get the precise quantities needed and the most efficient size of bottles, both of which depend on the number of voters at each polling station. Some dispensing formats may also help reduce the volumes needed; in particular, marker pens use considerably less ink. The concentration of silver nitrate could also be reduced. Such changes to the dispensing format and silver nitrate concentration would need testing in the local context and with stakeholders.

→ **Dispose of indelible ink via a specialist hazard waste facility.** There are different ways that indelible ink can be treated, such as specialist incineration with very high temperatures and specialist filtration. In some cases, the active component could be treated and recycled for some other use (for example, cloth tincture). Many countries do not have facilities to dispose of such toxic waste in a safe manner and may need to export, which requires permits. It can therefore be useful for contracting arrangements to require providers to undertake secure disposal of ink. All disposal options require good logistics planning that ensures such materials are retrieved from polling sites and returned to a central location for secure disposal.

→ **Request bottles or other ink dispensing formats with recycled content**. Planning this preference in advance will give suppliers more time to produce or procure bottles or pens with recycled content.

Ballot boxes and seals

Key environmental impacts: GHG emissions, use of non-renewable natural resources, pollution of land and water (including with microplastics).

Ballot boxes can be made out of different materials depending on the local requirements regarding translucency, longevity and cost. Whatever materials are used, the key environmental considerations are to reduce reliance on virgin input materials, extend functionality and use, and avoid waste at the end of the boxes' useful life. If plastic is used for a long time and is not disposed of after each election, it is considered durable and therefore is a good solution.

At the time this guide was being prepared, there were no commercially available plastic ballot boxes made of recycled materials that would pass standard durability tests for robustness and shelf life. The same was true for plastic seals that are used to secure ballot box lids and slots.

Possible ways for EMBs to reduce environmental impact:

→ **If plastic ballot boxes are used, ensure they are tracked and cared for in ways to enable a full shelf life over multiple election cycles.** To extend their use, it is important that they are stored well to avoid becoming brittle and losing their functionality.

→ **For plastic ballot boxes, request resin identification codes to enable recycling.** Suppliers can be requested to include resin identification codes from the Plastics Industry Association on the bottom of ballot boxes to enable identification of polymer type and therefore possibilities for recycling. Actual recyclability will depend on local facilities and capabilities, so it will be useful to enquire which polymers could be recycled in the relevant context before undertaking procurement.

→ **If other materials are used for ballot boxes, try to ensure they come from sustainable sources.** In practice, this means seeking out and prioritizing sources that are not linked to deforestation (if paper based), use recycled materials where relevant, and are free from polluting chemical processing.

→ **Use ballot boxes that can be stacked or easily stored**. This can reduce the storage burden and therefore the environmental and financial costs of transportation and warehousing.

→ **Consider exploring over time the potential for alternatives to plastic seals for ballot box lids and slots**. If they are not already, other electoral stakeholders at some point may be satisfied with alternatives to plastic seals, such as paper tape with the signatures of agents and/or sealing wax with a unique stamp.

Voting booths

Key environmental impacts: GHG emissions; use of non-renewable and scarce natural resources; use of water; air, water and soil pollution.

Possible ways for EMBs to reduce environmental impact:

→ **Have good storage to enable reuse of voting booths.** Good storage and movement management of cardboard or corrugated plastic voting booths can help them to be reused over multiple elections.

→ **Include some recycled content in booths.** Standard cardboard with minimum 30 percent recycled content has sufficient strength. Higher proportions of recycled content would need to be checked in local conditions to ensure that bursting strength would not be compromised.

→ **Explore what lamination may be possible for use and recycling.** Different coatings can be explored locally to see what works effectively and, noting that lamination can reduce recyclability, what can be recycled.

→ **For plastic booths, ask for identification codes to enable recycling.** The Plastics Industry Association resin identification codes can enable accurate sorting for recycling, if such facilities are available.

→ **Consider designs of booths that enable several voters to secretly mark their ballots at the same time.** This would use less material and have smaller transportation and warehousing requirements. However, this option needs testing in local conditions and with the engagement and collaboration of other electoral stakeholders.

→ **Consider alternative forms of protection for voters to secretly mark their ballots.** For example, in some contexts, curtains or furniture already in polling locations (such as schools) may offer adequate privacy. Using such options would also reduce transportation and storage burdens. Plant-based polling booths may also be used, as has been undertaken in India.[57]

"Registration and polling station kits"

Key environmental impacts: GHG emissions, use of non-renewable and scarce natural resources, air and soil pollution.

These kits often include standard stationary, plastic envelopes, paper items, tape, a calculator, batteries, a lamp and banners. Overall, large quantities of materials are typically required (especially for polling).

Possible ways for EMBs to reduce environmental impact:

→ **Reduce packaging.** This applies to both secondary and tertiary packaging (used in cargo and transportation). Kit boxes or bags can be made from materials that can be used over several elections (fabric or durable plastic).

→ **Choose durable products that are long-lasting and minimize waste.** This might mean better quality products with a warranty and buying refillable products rather than single-use items.

→ **Invest in good storage conditions.** When purchasing materials and products that are intended to be stored between use, consider the conditions available for storage and whether they are suitable for the materials. For example, cardboard may deteriorate if stored in humid conditions, translucent plastic might become murky, and paper might lose brightness if stored for a long time in conditions with fluctuating temperatures and humidity.

→ **Lend or donate goods that will not be reused.** For example, take pens and leftover paper to local schools or projects.

→ **Design for reuse.** Removing dates and specific details from signage for voter registration and polling sites enables them to be used again across multiple elections and locations. As noted elsewhere in this guide, the Australian Election Commission replaced branded cardboard with plain cardboard for election equipment.[58]

→ **Reduce single-use items.** For example, these items could include refillable printing ink cartridges and reusable delivery bags. Envelopes with double layers of tamper proof seals can be reused once. Alternative tamper-evident mechanisms can also be considered over time with stakeholders, such as wax seals.

→ **Use recycled materials whenever possible**. For example, these materials could include recycled plastic in stationery, aluminium and steel in equipment, and paper in napkins and journals.

→ **Avoid mixed materials to enable recycling.** For example, when choosing a notebook, try to choose paper and cotton thread instead of laminated covers with plastic or metal staples.

→ **Select devices (such as lamps and calculators) with solar or mixed powering and lower energy consumption.** Many devices can either be solar or have mixed solar-battery operating to reduce the need for batteries. Energy-saving bulbs can also be used if they meet requirements for local conditions.

→ **Use rechargeable batteries and/or batteries with lower levels of hazardous components.** Batteries commonly contain hazardous elements such as mercury, cadmium and lead, all of which are bad for the environment. If possible, it is good to use rechargeable batteries, but it is important to keep in mind that this requires testing in local conditions and high levels of organization so that all batteries are fully charged as needed. Also, it is environmentally beneficial to use batteries that contain the least possible amount of hazardous components, such as alkaline and zinc-carbon/zinc-chloride batteries.

→ **Undertake safe disposal of batteries.** This requires a specialist service for disposal of batteries as hazardous waste.

Clothing and promotional material

Key environmental impacts: GHG emissions; use of non-renewable and scarce natural resources; pollution of water, air, and soil (specifically plastic and microplastic pollution).

Possible ways for EMBs to reduce environmental impact:

→ **Extend the useful life of any clothing items, including high-visibility vests.** This might mean minimizing event-specific marking such as dates or the type of election being conducted. If event-specific marking is necessary, then such details could be embroidered on attachable panels that can be replaced for later events. Clothing is mostly non-recyclable and ends up either in landfills or is incinerated.

→ **Choose natural fabrics.** Plant-based fabrics such as organic cotton, bamboo, hemp and agricultural waste fibre have a better environmental profile and are heathier for the wearer (synthetics such as polyester, in particular, can have adverse health impacts for some wearers in hot weather). Clothing made from recycled polyester or plastic bottles may be preferable to virgin polyester in terms of reducing demand for new materials. However, such recycled clothing may shed microplastic, still relies on petroleum-based materials, and involves taking polyethylene terephthalate (PET) bottles out of circular processing to become textiles.

→ **Avoid plastic and single-use promotional materials.** This can help reduce the carbon burden and demonstrate an EMB's sustainability efforts and values. For example, instead of giving EMB-branded plastic pens or badges, materials made from alternative plant-based materials can be distributed.

→ **Use locally made promotional materials.** This can reduce the environmental and financial costs of transportation and also improve an EMB's reputation by showing that it is supporting local and national interests and prosperity. Examples of materials to consider, if available, could include reusable bags made locally out of woven plant-based materials, fans for managing heat, caps and branded water bottles. Local foods and drinks could also be given out at events rather than imported products (which often have additional packaging).

→ **Avoid laminates and mixed-material promotional items.** These are difficult to recycle.

→ **Use materials that will not be toxic to staff and voters.** Some materials can emit toxic vapours in hot temperatures or upon contact with human skin, particularly materials that have been treated for water resistance and fire retardancy such as canvas tarpaulins. Some of these treatments may involve toxic substances that can pose health risks, such as heavy metals or formaldehyde. Some synthetic tarpaulins can release volatile organic compounds (VOCs) when new, which can contribute to indoor air pollution if used in enclosed spaces.

→ **Reduce size and weight of visibility material such as vests and caps.** It may be possible to reduce some items to smaller sizes or lower grammage, for example by switching from using reflective vests to reflective strips.

Registration and polling sites

Key environmental impacts: GHG emissions, generation of waste, habitat disturbances, land and water pollution.

Generally, EMBs use existing infrastructure such as local authority buildings for voter registration and tabulation of results and schools for polling stations. Although EMBs therefore have limited influence over infrastructure arrangements, there are some possible measures they can take in the interest of the environment and sustainability.

Possible ways for EMBs to reduce environmental impact:

→ **Locate registration and polling stations in places that are accessible by 'greener' means.** Sites that are easy for voters to walk to or access by public transport can reduce use of cars and help citizens take part in elections.

→ **Promote public transport to voters and communicate options clearly.** For example, in Fiji there is a dedicated call centre for information about the free bus service for voters on election day. In Canada the electoral administration is engaging with transport authorities about the possibility of providing free access to public transport on election day.

→ **Consider the possible impact on local habitats and ecosystems when selecting locations.** It can be worth checking if there are any sensitive natural areas near a polling location that may be negatively affected by election-related activities, for example crowds gathering to vote or waiting for polling station results. Disruption to habitats and ecosystems can also come from increased transport, light, noise, movement of people and goods, and waste.

→ **Do not include any markings and labelling specific to the event, location or type of election.** In this way, items can be used for other events, for example direction banners, notice signs and waste information posters. Where labelling is needed, stickers can be used.

Paper and printed materials

Key environmental impacts: GHG emissions; use of non-renewable and scarce natural resources; use of water; pollution of water, air, and soil.

The following considerations apply to paper and printed materials for both EMB office use and election activities (including ballot papers, statutory forms and promotional materials).

Possible ways for EMBs to reduce environmental impact:

→ **Request paper with certifications.** Two examples are certifications issued by the Forest Stewardship Council (FSC) and the Programme for the Endorsement of Forest Certification (PEFC),[59] both of which provide assurances that there has been no deforestation in paper supply chains.

→ **Use recycled paper whenever possible.** This reduces the demand for timber used to produce virgin paper.

→ **Eliminate or reduce use of optical bleaching agents (OBAs).** These are chemicals that can be used to make paper look brighter. In many if not most cases, paper used can be unbleached. If paper needs to be brightened, the best option is an agent that is elementary chlorine free (EFC). That label means chlorine dioxide has been used rather than chlorine gas, a change that reduces formation of toxic compounds.

→ **Use vegetable ink in printing.** Rather than using petroleum-based inks, vegetable alternatives can be used. This does not result in a loss of quality and offers better environmental performance with reduced pollution. Compared with petroleum-based options, vegetable ink has lower volatile organic compounds (VOCs) and toxic emissions and bio-degrades faster without contaminating water or soil. Vegetable ink is already widely available in the printing sector. For example, soy ink

produces lower levels of toxic emissions than petroleum-based ink and is easier to recycle.

→ **Avoid printing in multiple colours where possible.** Layers of ink make it harder to recycle paper or card after use.

→ **Use greener printing industry practices when possible.** One approach would be to select a printing company that uses renewable energy and technologies that minimize use of water and chemicals. For example, newer machines print with solutions that are free from isopropyl alcohol. Automatic wash-up systems reduce the use of cleaning agents and are installed in many new machines. Using local companies saves on emissions from transportation.

→ **Explore the possibility of using tree-free paper for different items.** Tree-free paper is crafted from sustainable plant fibres that are not wood-based, like bamboo, cotton linters, husk, sugarcane, and other agricultural byproducts. These materials offer a renewable and eco-friendly alternative to traditional paper made from trees.

→ **Avoid plastic lamination, for example on voter registration cards.** Use environmentally friendly alternatives to plastic laminating such as biodegradable laminating films and pouches:

Packaging

Key environmental impacts: GHG emissions; use of non-renewable and scarce natural resources; use of water ; pollution of water, air and soil (including plastic pollution).

Packaging often causes large volumes of waste, for example of cardboard, wood and plastic. One common problematic material is single-use plastic that is used to wrap pallets so that goods remain protected from the elements, often with additional plastic straps above.

Possible ways for EMBs to reduce environmental impact:

→ **Use packaging that can be reused, when possible.** For example, large plastic large re-sealable and reusable plastic bags may be suitable for use to protect boxes of materials from exposure to weather when registration and polling kits are being distributed. It is good if packaging is easy to store between elections.

→ **Use packaging with high levels of recycled material.** For example, cardboard packaging can be required to have 80 percent recycled content.

→ **Avoid packaging that contains PVC or chlorinated plastics.** PVC (polyvinyl chloride) products are toxic in the production, use and recycling stages of its life cycle.[60] PVC is often used for blister packaging, clamshell packaging and shrink-wrap packaging, as well in construction materials, electrical equipment and other items that need to be water-proof and insulated.

→ **Use packaging that can be easily recycled.** This usually refers to packaging that can easily be separated into different materials. An example of how to put this in action could be to require that 80 percent by weight of packaging materials be easily recyclable.

→ **If using plastic wrapping, then use certified biodegradable options.** These include, for example, materials with EN13432 and ASTM D6400 certification.[61] When these materials are used, it is recommended that they are collected separately and disposed of in specialized facilities.

→ **Use plant-based materials tape and rope.** Paper-based tape is an alternative to regular cello tape with the advantage that it can be recycled together with the paper/cardboard that it may be used on. It is an easy way to reduce use of single-use small format plastic that can be a pollutant after use. Sisal ropes also may be used to firm shrink the pallets together.

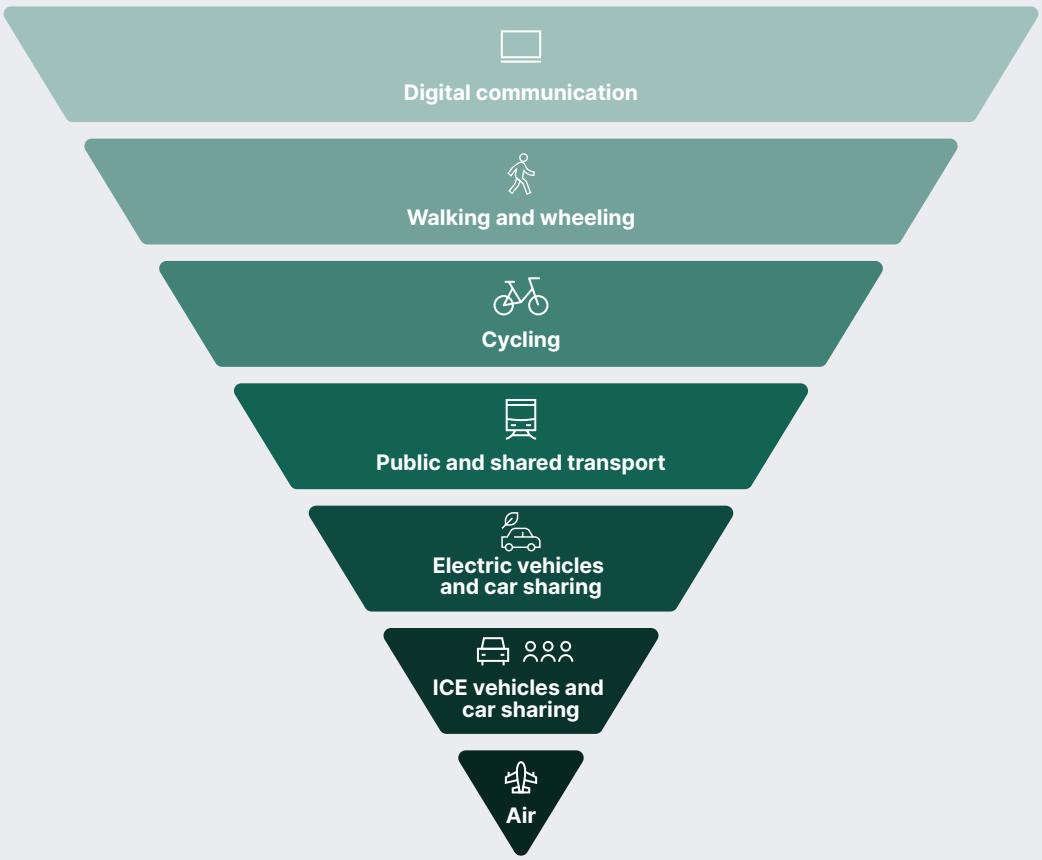
→ **Avoid the need to re-package.** Supply contracts can be drafted to have packing requirements for the last mile point of distribution, which would mean there is no need to break bulk and repackage.

Transportation and travel

Key environmental impacts: GHG emissions, air pollution through tailpipe emissions, microplastic release (from the friction of tires on roads).

The travel hierarchy shown in Figure 5 is a useful tool for thinking about reducing the impact of transportation and travel.[62]

Figure 5. **Travel hierarchy for transportation and travel: from least to most environmentally friendly**



Possible ways for EMBs to reduce environmental impact:

Ongoing office running:

→ **Reduce use of cars and make public transport and walking and bicycling options more convenient and comfortable, which can also help make an EMB more accessible.** Having permanent or temporary offices in locations that are served by public transport can make it easier for staff and visitors to avoid using cars, and can make an EMB more accessible in general. Other possible measures could include secure bicycle storage arrangements and payments made for work travel conducted by bike. When planning such changes, it is helpful to consider safety and accessibility implications, including for women and disadvantaged groups.

→ **Switch to electric vehicles (EVs) where possible.** While the actual emissions from EVs depend on the electricity grid in the country of use, they are cleaner when driven than vehicles with regular internal combustion engines, so there is less air pollution. EV chargers could also be installed at EMB offices as an incentive for staff to use EVs. (In general, the ability, value and impact of switching to EVs may be limited by context factors such as the availability of the cars themselves as well as necessary infrastructure.)

→ **Promote eco-driving training and approaches.** This involves drivers being educated on practices that reduce fuel consumption, such as smooth acceleration and braking.

→ **Optimize trips to minimize impact.** For example, combine trips from different departments to a field office and avoid heavy traffic periods for travel to and from meetings.

→ **Reduce air transport and travel**. Consider sea transportation for materials and rail travel for shorter journeys and optimize trips when air travel is necessary (these forms of transport may also be more cost-effective). If there is any business class air travel, use this only for longer trips or for health reasons.

Use hotels or other accommodation options that demonstrate environmental credentials. Good options could include places with certifications from the Global Sustainable Tourism Council and Green Key, and it could also be possible to get information from hotels on whether they are taking any actions to reduce their environmental impact.[63]

Electoral operations:

→ **Reduce air freight in favour of shipping and ground transportation (in particular, rail routes).** Shifting from air freight generally requires more forward-planning in order to build in the additional transportation time required for travel by sea. However, such changes can deliver both environmental and financial savings.

→ **Specify in procurement tenders for logistics providers to utilize lower carbon transport where possible and to optimize vehicle loading and logistics routes.** Efficiencies can often be made by minimizing the distances that a vehicle travels unloaded and identifying more efficient and shorter routes based on real-time traffic data, weather conditions and delivery schedules. Suppliers might also be able to work on better multi-stop planning to minimize unnecessary travel. Multi-modal and last-mile delivery innovations can also be used, with for example a mixture of rail, maritime and road transport.

→ **Engage with the transport suppliers on other possible environmentally friendly measures.** Logistics companies can be asked about any actions they have taken in regard to eco-driving and low carbon fuel transition. There may be other new innovations, for example for capturing microplastic pollution from tyres.[64]

Waste management

Key environmental impacts: GHG emissions; pollution of air, water and soil.

As noted by the UN Environment Programme, "If change does not happen at speed and scale, humanity will face unmanageable quantities of waste with potentially irreversible impacts on biodiversity, human health and climate change."[65]

In many countries the most popular method of waste disposal is landfill. However, this is environmentally problematic for a number of reasons:

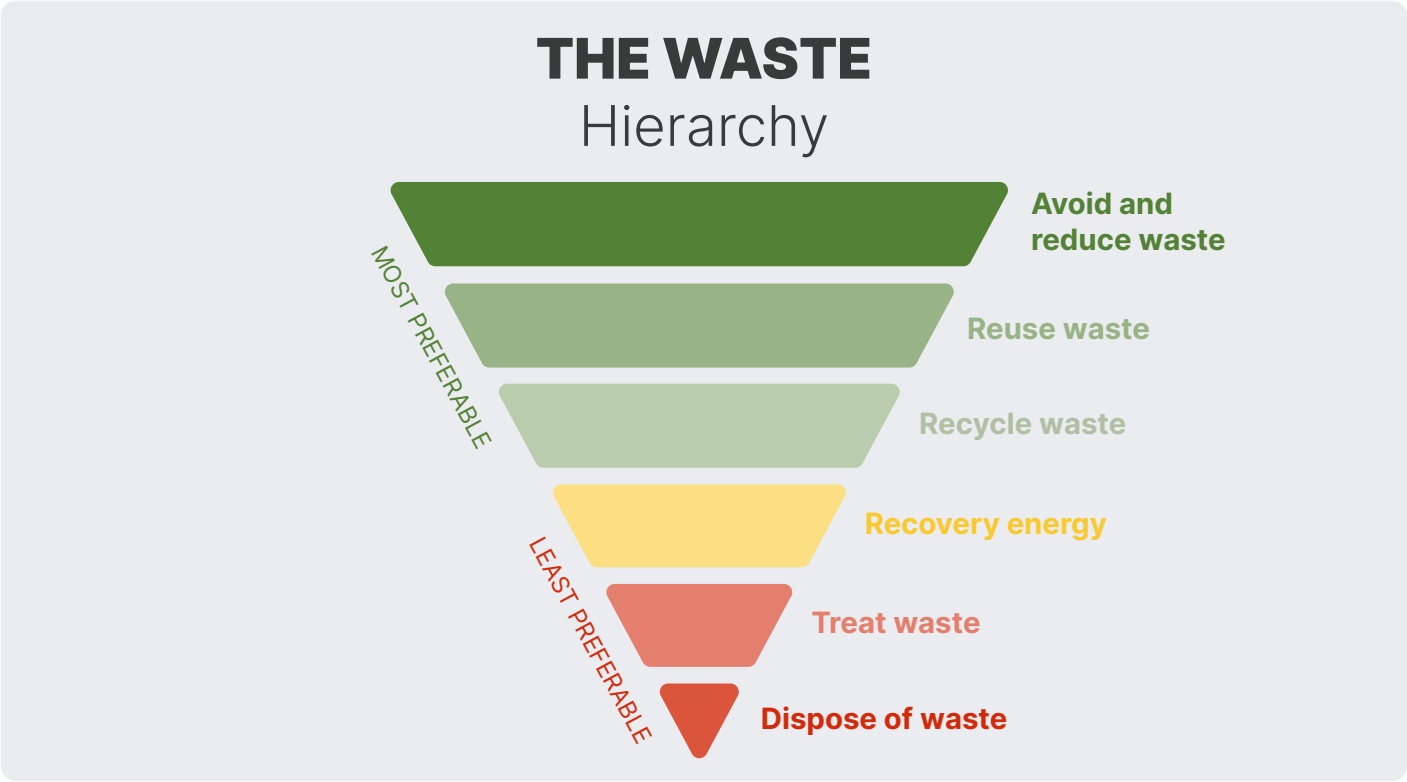
- Improperly managed landfills can lead to groundwater pollution from leachate (liquid waste that drains from the landfill), methane gas emissions from decomposing organic matter, and the release of offensive odours.
- Landfills use significant land areas.
- In some countries landfills may be open, allowing people and animals to access them and therefore causing health and safety risks as well as possibly contamination nearby land and water.
- Fires can start in and spread from open unmanaged landfills.

Incineration can also be problematic. For example, open burning and managed incineration of paper and plastics results in the release of CO2 and other air pollutants, including carcinogenic compounds.

Use of landfill and incineration also discourages development of recycling systems. They take valuable resources out of circulation, thereby requiring new resources to be extracted to make more materials and the use of more processes (most of which have negative environmental impacts) to make goods.

The waste hierarchy in Figure 6 can be a helpful framework for identifying preferable actions from the standpoint of environmental impact. Actions that are most preferred are at the top of the inverted pyramid (in green), with the least preferred at the bottom in red.

Figure 6. **Waste hierarchy: from least to most environmentally friendly**



Source: European Union Waste Framework directive.[66]

For EMBs the most common types of waste are probably paper (used ballots, forms, voter education, etc.) and single-use items (such as tamper-evident bags and ballot box seals). During the first and most severe years of the COVID-19 pandemic there were also large volumes of biomedical waste to dispose of. Authorities in several places have made it a planning and implementation priority to quickly and effectively remove such waste to reduce contamination risks. For example, during the 2022 Punjab assembly election in India, waste materials were reportedly collected from all 24,740 polling booths of the state within two hours to 603 dedicated collection centres, with vehicles tracked to check efficient disposal.[67]

Some EMBs may seek to move towards holding zero-waste elections to avoid electoral pollution and garbage. 'Zero waste' is defined as "the conservation of all resources by means of responsible production, consumption, reuse and recovery of products, packaging and materials without burning and with no discharges to land, water, or air that threaten the environment or human health."[68]

Possible ways for EMBs to reduce environmental impact:

→ **Seek to reduce, reuse and recycle wherever possible.** This will help to better utilize current and future resources and reduce environmental impact.

→ **Retrieve posters, banners and other materials for proper disposal after an electoral activity**. This will enable more effective disposal and avoid elections being seen as creating garbage that is left for communities to deal with.

→ **Factor in waste disposal as part of budget preparation.** This involves including the costs of retrieval of materials, specialist disposal and any other waste management needed in budgets and resourcing plans upfront as a core part of activities.

→ **Minimize materials for which recycling infrastructure is not available.** Materials that can sometimes be challenging for recycling include laminated paper, flexible plastics, adhesive tape (such as Sellotape and Scotch tape), plastic film, single-use cups and bottles, mixed materials, compostable items, hazardous waste, materials treated with special coatings and chemicals, and electronics.

→ **Engage the government agency responsible for waste management about disposal options.** This can include discussion of current options as well as EMB preferences and needs for consideration for future national recycling infrastructure.

→ **Consult with waste management service providers about different disposal options.** This is best undertaken in advance so that disposal/reuse strategies can be included as part of the procurement process for materials and equipment and also incorporated in budgets. These consultations could be explore, for example, if any plastic used could be turned into something valuable, including election materials, rather than deposited at a dump site.

→ **Where no paper recycling facilities exist, various other options can be considered.** Other options may not be suitable for sensitive materials (such as used ballot papers, completed forms or copies of the voter register), but they may be acceptable for other paper and card materials used (such as for office work, packaging and voter information materials). One useful step can involve identifying local partners who may be able to use materials. For example:

- Shredded paper can be reused for packaging or provide bedding for farm animals.
- Cardboard and paper can help create compost.
- Cardboard can be useful for households for storage and individual composting / soil protection in gardens and allotments.
- Paper could be collected for arts and crafts for school and local community use.

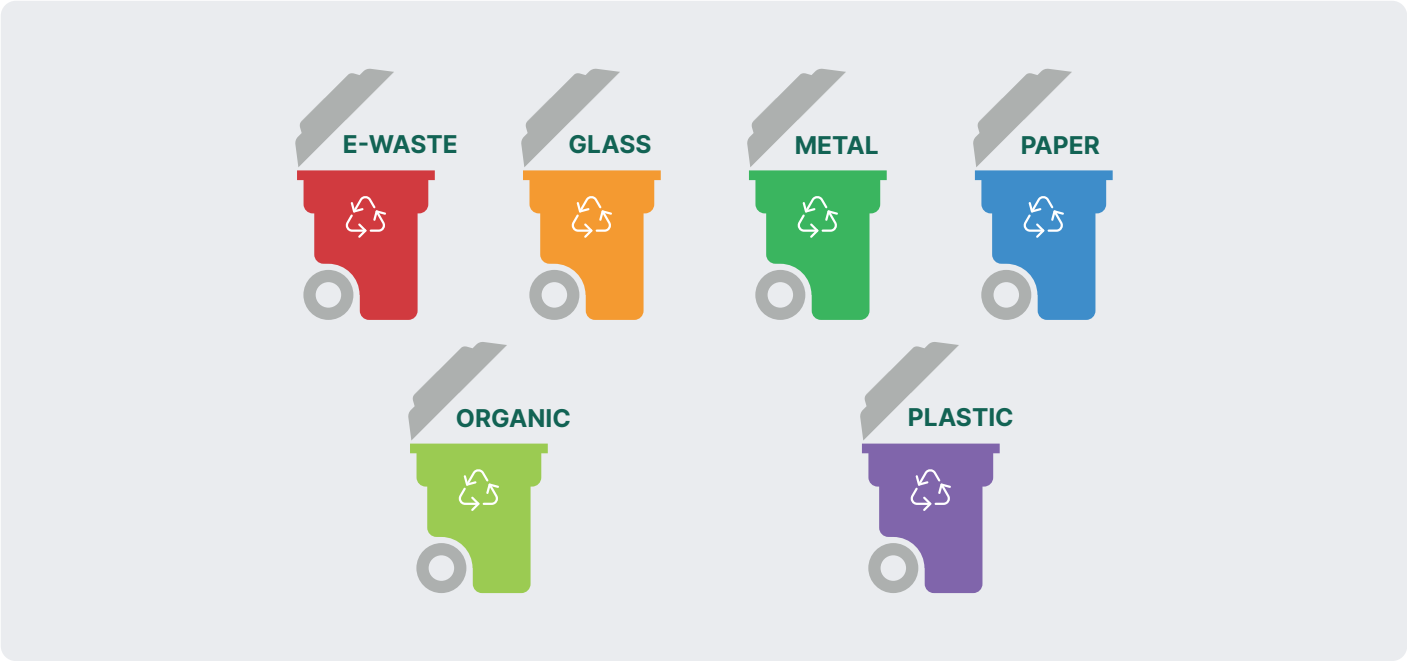
→ **Undertake specialist disposal of electronic and toxic waste.** Such waste includes, for example, indelible ink and E-waste (such as old batteries, registration devices, calculators, torches). Electronics contain a lot of valuable materials, but E-waste is hazardous if not handled properly. The use and disposal of batteries contribute to the emission of greenhouse gas, ozone depletion, acidification of lakes and pollution of soil and water. Including the disposal arrangements in the budgets and planning will help prevent such waste. Specialist partners could be requested to provide a service that includes a complete setup, from packing of the hazardous cargo at origin, to assistance with applications for required permits/licenses, to the final disposal service.

→ **Introduce segregation of waste on electoral sites according to the waste streams available at the local waste management infrastructures.** The most widely recyclable categories are generally paper/cardboard, plastic, glass and metals. Waste disposal signage can be used to guide staff and voters at election sites, with signage being made easy to understand with images and symbols that can be readily recognized. It also can be helpful to provide information on what happens to the materials after disposal, because people tend to react better when they know that their efforts will be part of a positive outcome. Also to note is that ballot boxes can be repurposed for waste segregation.

→ **In EMB premises, remove waste bins from individual workstations and create recycling hubs.** Studies suggest that this simple change can help reduce waste in offices and promote more mindful materials management.

→ **Provide training to permanent and temporary staff on waste management.** Such training might cover the benefits of waste reduction and proper waste treatment, what different waste treatment methods involve, what is included in each materials' stream, and where to position bins. Engaging staff in this way can help educate, reduce waste and create space for new suggestions and good practices.

Figure 7. **Waste segregation by different streams**



Note that the colour designation of bins for various waste streams may vary by country and local municipality rules.

Energy and utilities

Key environmental impacts: GHG emissions, use of water; water and soil pollution, destruction of natural habitats, use of non-renewable and scarce natural resources.

Important considerations include the use of energy for heating and cooling; water access; and wastewater management in EMB offices, warehouses and on electoral sites. In recent years, many more technologies that offer carbon savings (because they do not rely on fossil fuels) are not only available but are potentially cheaper energy sources than traditional ones. For example, solar panels are a sustainable and cost-efficient alternative to using diesel generators.

Possible ways for EMBs to reduce environmental impact:
Practice efficient energy use:

→ **Reduce unnecessary use of energy.** For example, switch lights and computers off when not in use. Schedule and complete most activities during the day to reduce the need for light at night.

→ **Adjust the air conditioning and heating.** Minimize how hard air conditioners have to work to cool the air and turn heating down by a couple of degrees. Prioritize air conditioning assets using low-impact refrigerants. Synthetic refrigerants with the lowest carbon impact include hydrofluoroolefins (HFOs) such as R1234ze and R1234yf.[69]

→ **Install motion sensors.** In this way lights in the offices and spaces are only used when necessary.

→ **Use low energy lighting.** Options include LED and solar lights.

→ **Prioritise energy-efficient information and communication technology (ICT) equipment during procurement.** This will help reduce energy consumption and bills.

→ **Ensure buildings are well-insulated.** This will help minimize loss of heat or cooling air to maintain a pre-set temperature, thereby reducing the energy needed to heat or cool a building.

→ **When procuring warehousing facilities, prioritise energy efficiency, insulation and appropriate temperature / climate control.** This will help reduce emissions and provide for good storage conditions to enable optimized lifespan of materials and equipment. When possible, select carbon-smart facilities, which are energy-efficient facilities that use low carbon energy and materials.

→ **Choose venues with access to the mains electricity grid to help reduce the need for generators.** It may also be possible to enquire with venues about whether they can use micro-grids or solar panels instead of fossil fuel generators.

Transition to renewable energy:

→ **Prioritise energy suppliers that use renewable energy.** This could save costs as well as be environmentally friendly. Renewable energy capacity has increased considerably over recent years with pricing that is often now more competitive than energy from fossil fuels.[70]

→ **Use renewable energy for backup generators.** Renewable energy can include solar power, energy storage cells and batteries, or generators using renewable fuel (for example from vegetable and/or waste oil). Hydrogen fuel cell technologies are being researched and developed and may become available in some countries.

→ **Where possible, install energy sources that are self-owned and operated such as solar panels to help reduce operational costs.** Solar panels have dramatically reduced in cost over the last decade and have become increasingly competitive economically in most countries and contexts.

→ **Where there is a choice, prioritize venues that use renewable energy.**

Technology and digital activities

Technology and digital services can provide efficiencies in some aspects of electoral processes. However, they also can make it harder for stakeholders to see and trust the processes and do not always offer environmental savings because both the production and use of electronic equipment have significant environmental impacts. The ICT industry causes at least 1.7 percent of global carbon emissions annually, contributes to resource depletion and produces hazardous waste.[71] The UNDP Office of Procurement Governance Team has recently developed a series of sustainable procurement guides, including "Sustainable Procurement of Electoral and Identity Items" and "Sustainable Procurement of ICT Equipment".

Technology equipment

Key environmental impacts: GHG emissions, water and soil pollution, destruction of natural habitats, use of non-renewable and scarce natural resources, creation of waste that is not recycled and is toxic to people and nature.

Five sustainability areas may be considered when looking at ICT:

- Energy consumption and efficiency
- Hazardous substances
- Product lifetime extension
- End-of-life management
- Socially responsible sourcing

Examples of how these areas can be approached with the goal of reducing environmental impacts are provided below. In practice, this can be a difficult process with ICT equipment because of the complex subcontracting practices, geographic dispersion of suppliers and limited transparency. Standards and certification programmes may be helpful in assessment of sustainability of ICT equipment (see Annex 2 for examples).

Possible ways for EMBs to reduce environmental impact:

→ **Reuse devices from previous electoral events where possible and ensure a longer lifespan for products.** Minimizing demand for new devices is the most effective way to reduce environmental impact. This will require maintenance and good storage conditions and may involve higher upfront costs for devices with longer lifespans. Examples of where to focus include expected maximum throughputs in printers, expected battery life in mobile devices and minimum battery charge cycles.[72]

→ **Seek to use multi-purpose units when there is sufficient functionality and quality assurance.** For example, the same device can be used for voter registration, for voter identification in polling stations and for recording copies of results forms.

→ **Where possible, use equipment that follows the design principles of disassembly, repairability and longevity.** This can include:

- Modular designs that allow various components of the system to be swapped out and replaced (for example the screen and battery).
- Ability of the enclosing body to be opened by a specialist to access parts that may require repair.
- Use of standardized screws (such as Phillips-heads or equivalent) to secure key components, avoiding the use of adhesives when possible.
- Certification and a repairability score as may be found on iFixit.[73]

→ **Use recyclable materials.** For example, there could be an expectation that at least 90 percent of the mass of plastics and metals is recyclable once disassembled.

→ **Require recycled content in the products.** For example, there could be a requirement that recycled content make up at least 30 percent of plastic used. Metals such as steel and aluminium generally have higher availability of recycled content, with proportions up to 100 percent.

→ **Request equipment design that is interoperable and supports reuse of components.** Examples of such products include standardized ports (such as USB-C for charging and data transfer) and external power supply, and detachable cables that can be reused for different equipment.

→ **Request an extended warranty.** In addition to a manufacturer's warranty, an extended warranty and contractually guaranteed technical support can be provided by contractors (which may be a distributor, consolidator or manufacturer). An extended warranty could be included in a service-level agreement that may cover the type and levels of support, responsible parties and contact details, availability of service (including response and resolution times), spares (for example for a minimum of five years), stocks (including the minimum on site), and the reporting system. The agreement could also include a commitment to repair as a first remedy and for preventative maintenance actions to be undertaken. Such warranty condition can help enable access to support and repair of products, thereby extending their lifespan.

→ **Consider refurbished technology where items are not sensitive**. For example, such items could include printers, monitors, shredders and calculators. Many technology companies now offer certified remanufactured and refurbished products covered by the same guarantees as new items. Using refurbished products covered by quality guarantees will reduce overall environmental impact compared to buying new technology while also offering reassurance about technology reliability.

→ **Consider take-back programmes in which goods are retrieved at the end of life.** These goods are then either refurbished and remarketed or disposed of in an environmentally sound manner.

→ **Consider buying services rather than equipment.** For example, it may make financial or logistical sense to use a service to have sensitive papers shredded instead of purchasing an industrial shredder to be kept on site. ICT hardware can also be procured as a service or on a take-back basis, which enables that equipment can be returned when it is no longer needed or comes to the end of its useful life.

→ **Request the highest energy efficiency rating available for the device category.** Using products with such ratings will reduce energy requirements to run devices, thereby also reducing energy costs. Energy efficiency labels vary by country, so would need to be specified in any international procurement (they may include such standards as Energy Star, EU Ecodesign or similar). Other criteria may include that the device consume approximately 30 percent of energy during sleep mode compared to stand-by consumption and have a quick startup function available.

→ **Whenever possible, require confirmation that minerals used in the supply chain of equipment do not come from conflict-affected areas.**[74] Tin, tantalum, tungsten and gold are often used in electronics. While it may often be challenging to trace the supply chain, and such confirmations may not always be provided by suppliers, it is good to signal to suppliers that this is important, and

that there are expectations of them undertaking due diligence.

→ **Request confirmation that equipment is free of harmful substances.** Suppliers and manufacturers can be requested to provide certificates demonstrating compliance with the EU's Restriction of Hazardous Substances in Electrical and Electronic Equipment (RoHS) Directive, the EU's REACH Regulation, China's Restriction of Hazardous Substances Directive, California's Proposition 65 or equivalent internationally recognized standards aimed at restricting use of harmful substances.

→ **Consider ways to ensure that environmentally beneficial consumables can be used with all equipment purchased and used.** For example, request printers compatible with EN 12281 compliant recycled paper.

Digital activities and websites

Key environmental impacts: GHG emissions, use of water, land and marine disturbances, land use change.

EMBs' digital presence is an important part of efforts to fulfil their overall roles and responsibilities, including because election administrators are expected to make large amounts of information easily publicly accessible in real time. There are various initiatives EMBs can take to maximize their digital presence while also minimizing negative environmental impacts. Taking action in this area is useful because digital activities consume a significant amount of energy, rely on large volumes of water, and use physical materials to build the infrastructure to process and manage data.

Possible ways for EMBs to reduce environmental impact:

→ **Choose a hosting and cloud storage provider that uses renewable energy.** Cloud storage and data processing requires a lot of energy. Using renewable energy therefore can offer a significant carbon-saving benefit because EMBs deal with large amounts of electronic data.

→ **Optimize cloud storage for maximum information.** Large volumes of data require a significant amount of energy and cooling. Implementing a data review, deleting duplicates and optimizing the size and formats of files can help reduce environmental impact.

→ **Streamline website designs and improve their carbon footprint.** It is vital for EMBs to make information easily and speedily available and accessible to the public, especially during the results process. It is therefore a priority that EMB websites can manage large quantities of data. The simpler and more efficient such website designs are, the less energy they need for processing. Simpler website designs can also be more accessible to and usable for voters who have limited access to data and bandwidth. The carbon impact of websites can be incorporated in the website design briefs and specifications and monitored to identify opportunities for improvements.[75]

→ **Consider whether the use of artificial intelligence (AI) is essential for an activity.**

AI can be a useful tool for increasing the effectiveness and efficiency of many aspects of an EMB's work. However, it can also have negative environmental impacts. The use of AI increases the demand for energy and water overall. Some estimates suggest that an AI search might have an environmental impact 10 times bigger than a Google search. EMBs therefore can try to ensure equitable and inclusive approaches to harnessing AI benefits while also mitigating the environmental challenges for the benefit of people and the planet. Decisions and actions could seek to align with existing statements and guidance such as principle (e) of Global Digital Compact. This states that "Digital technologies unlock new capabilities and opportunities for advancing environmental sustainability. Our cooperation will leverage digital technologies for sustainability while minimizing their negative environmental impacts." Likewise, the UNESCO Recommendation on the Ethics of Artificial Intelligence urges actors to recognize, protect and promote "environmental and ecosystem flourishing throughout the AI life cycle".[76]

Plastic

Key environmental impacts: GHG emissions; support of the fossil fuel sector, toxicity for humans and animals; and pollution of air, soil and water.

Plastic is a flexible and useful material and is often cheaper, more durable and more practical than alternatives. It has enabled innovations that have helped solve a range of problems. However, due to its low cost and easy availability, it is used in circumstances that do

not match its longevity and function, causing significant environmental and human damage.

Globally only 9 percent of plastic products are recycled, with some countries not recycling the material at all.[77] This means that 91 percent of plastics goes into landfill, is incinerated or remains unprocessed. If it stays unprocessed, plastic causes significant damage (and in some instances death) to wildlife, blocks waterways and stormwater routes, pollutes water and soil, and can break down into micro-plastic that then ends up in soil, food, human blood and tissue, and in animals.[78] It is estimated that 8 million tonnes of plastic end up in oceans each year and that without improvements this could rise to 90 million tonnes a year by 2030.[79] In some countries a lot of plastic is burned in the informal waste economy, causing toxic fumes and air pollution, with negative health implications for those inhaling.

The following plastics are often used in election processes:

Plastic type and Resin Identification Code (RIC)	Examples of use in electoral materials
Copolymer polypropylene (PP) RIC: 5	Rigid ballot boxes, seals, corrugated plastic voting booths, ICT equipment
Polyvinyl chloride (PVC) RIC: 3	Foldable ballot boxes, ICT equipment, voter cards
Acrylonitrile butadiene styrene (ABS) resin RIC: 7 (other)	Lids for rigid ballot boxes, stationary materials (such as calculators), ICT equipment and voter cards
High-density polyethylene (HDPE) RIC: 2	Bottles for indelible ink, stationary materials (such as rulers and pens), and ICT equipment
Polyethylene terephthalate glycol (PETG) RIC: 1	Voter cards

Possible ways for EMBs to reduce environmental impact:[80]

→ **Review all the ways plastic is used in an election process, including single-use plastic (SUP), and identify possible alternatives.** The items to focus on might include packaging, shrink wrapping, protective bags, security seals for ballot boxes and tamper proof envelopes, stationery items and campaign banners and posters.

→ **Avoid plastics that are single-use, easily become damaged or cannot be recycled.** The following should be avoided if possible:

- Using plastic or mixed material items a single time or for a very short period of time. For example, banners that have dates and event-specific information, single-use water bottles, and plastic bags and sleeves.
- Repeated use of single-use bottles, as these have not been designed for prolonged exposure and can release microplastic into the water.
- Plastic can start to release toxins when exposed to high temperatures for an extended period of time or scratched or otherwise damaged. This is especially dangerous for materials in contact with people, such as PVC banners and tarpaulins.
- Plastic that is likely to be disposed of after a short period of time (a few days, weeks or months) in a location where there are no facilities for recycling and processing of plastic.
- Plastic in products and items that come into contact with human skin on a regular basis. This could include for example, plastic in clothes and food containers (especially if they are used to heat food in ovens or micro-

waves). Any exposure to heat causes many plastic types to release toxins, and continual contact with skin can also cause irritation and dermatological conditions and may other negative impacts on human health.[81]

→ **Reduce use of plastic.** Some examples of where to focus include:

- Lanyards. Avoid printing dates or other specific information about an event on lanyards so they can be reused. When sourcing new lanyards, look for materials that are made out of plant-based materials such as woven textile or cork alternatives. Another approach could be to only purchase lanyard clips and use strings from previous events.
- Highlighters. Highlighter pencils are a good alternative to regular highlighters because they are made of wood or other biomass instead of plastic.
- Tape. Paper-based tape is an alternative to regular adhesive tape (such as Sellotape and Scotch tape) because it can be recycled together with the paper or cardboard that it may be used on. Using this alternative is an easy way to reduce use of single-use small format plastic that can be a pollutant after use.

→ **Look to maximize the useful life of any plastics used.** For example, careful storage of translucent plastic ballot boxes will extend their useable lifespan.

→ **Avoid mixed-material items because they are difficult to recycle.** Such items include laminated cards, stationery, and voter kits with multiple types of plastic, wood and metal.

→ **Use locally procured alternatives.** This will reduce environmental and financial transportation costs and help promote local markets. For example, reusable carry bags made locally out of woven plant-based materials.

→ **Partner with a local waste recycler or specialist project where plastic is still necessary or cannot be removed.** In this way the plastic is turned into something valuable rather than deposited at a dump site or incinerated.

A 2024 paper from the Westminster Foundation for Democracy (WFD) has more information on reducing plastic pollution in elections by EMBs and political parties.[82]

3.2 Climate-resilient elections (adaptation)

Election processes may be seen as critical infrastructure that need to continue through environmental disasters and challenges.[83] Climate change can make elections more difficult to arrange and administer in a variety of ways, including due to more extreme weather, more frequent natural hazards, higher temperatures and more IDPs. Adaptation means taking action to anticipate certain impacts and build resilience to cope with these challenges. Risks can be categorized as acute, which happen suddenly and rapidly, and chronic, which are slower to emerge and affect:

→ *Rapid onset: acute physical risks*. These are event-driven risks resulting from natural hazards that can cause immediate and severe damage to infrastructure, property and human life. Examples include cyclones, storms and hurricanes, floods, drought, wildfires, cold stress and heatwaves. Disaster and emergency planning is necessary for EMBs to address such events.

→ *Slow onset: chronic physical risks*. These refer to long-term changes in climate patterns, such as increasing average temperatures, changes in precipitation patterns and rising sea levels. Chronic risks develop gradually over time and can lead to significant impacts on EMBs' operations, such as impaired staff productivity, land and sea routes becoming inaccessible, access challenges to islands, and shifts in typhoon and rainy seasons.

Natural hazards

Heat stress has already become increasingly problematic for electoral activities in many countries and contexts, with higher and rising temperatures affecting voter registration, voting, counting and tabulation of results. As observed 2024 by the International Labour Organization, "Heat stress is having serious impacts on the safety and health of workers, as they are exposed to higher daily temperatures as well as more frequent and severe heatwaves."[84] A growing number of countries have laws covering maximum temperatures in the workplace for all workers, including those involved in electoral processes, with some regulations prohibiting outdoor work during the hottest part of the day (which is often becoming hotter and longer).[85] For EMBs, such laws may have implications for the work of permanent and temporary staff. For example, warehouse workers and voter registration and polling staff often work extremely long hours in heat-exposed conditions and may therefore need more breaks and provision for water and shade.

As noted by International IDEA, "Natural hazards are increasingly becoming a threat to elections as they continue to cause extreme damage and displacement throughout the electoral cycle."[86] The organization has developed an online map that records impacts and responses to disasters.[87] According to findings from 2024, extreme weather events affected 20 national, subnational and primary elections in 15 countries across all regions.[88] Countries affected in the last five years include Australia, Austria, Bahamas, Belize, Bosnia and Herzegovina, Canada, the Czech Republic, Ecuador, Germany, India, Indonesia, Italy, Iran, Malawi, Malaysia, Maldives, Mexico, Mozambique, Pakistan, Papua New Guinea, Spain, Somalia, South Africa, Turkey, the United States and Vanuatu.[89] Some recent examples of how climate events have affected elections include:

Heatwave in India (2024)[90]

→ *Event:* Extreme heat blanketed India for days during the multi-stage national parliamentary elections of 2024, with both daytime and nighttime temperatures at dangerous levels. On 25 May 2024, during the sixth voting phase, daytime temperatures soared above 35°C across most of the country, with parts of the northwestern states of Haryana, Punjab and Rajasthan reaching as high as 45°C and above.

→ *Adverse electoral effects:* The heat is reported by the media to have contributed to a lower-than-usual voter turnout as well as 143 recorded deaths and close to 42,000 people suffering from suspected heatstroke. Those affected also included over 30 polling staff dying from heat-related problems.

→ *Changes in procedures:* The National Disaster Management Authority issued information to the public about how to avoid and treat heatstroke, and the Election Commission of India issued regulations including policies mandating the provision of drinking water, shade and medical kits at polling stations. In some polling stations, such as those in Delhi, mist fans and air coolers were also provided. While air conditioners require outside ventilation to function, air coolers filter pre-existing warm air to extract cool air. Authorities made arrangements to collect votes from senior citizens and people with disabilities through a vote-from-home service. The Chief Election Commissioner stated that the main lesson was to have elections before the summer.

Wildfires in Australia (2021)[91]

→ *Impact:* Australia experienced severe bushfires during the driest and hottest year on record in 2019 and the first few months of 2020. From July 2019 to March 2020, more than 24 million hectares of land was affected, directly causing 33 deaths and almost 450 more as a result of smoke inhalation, and over 3,000 homes were destroyed.

→ *Adverse electoral effects:* Council elections were due in September 2020 in New South Wales but were postponed for one year due to the combined impacts of drought, bushfires and the COVID-19 pandemic. They were postponed again to December 2021 due to the COVID-19 pandemic. Even then some election venues were closed due to floods causing road closures and limited movements.

→ *Changes in procedures:* The postponement of elections due to multiple crises resulted in governance structures going beyond the expiration of their stipulated mandates. In some councils, additional staff were recruited from residents in isolated towns so that polling stations could open.

Cyclone in Mozambique (2019)[92]

→ *Event:* Cyclone Idai, one of the worst tropical cyclones on record, hit Mozambique just months before its general elections in October 2019. The cyclone caused severe flooding, destroyed infrastructure and displaced hundreds of thousands of people.

→ *Adverse electoral effects:* The devastation hampered voter registration efforts, disrupted logistics and limited access to polling stations (particularly in rural areas). Voter registration had to be delayed in affected regions and there were challenges in providing for the participation of all eligible voters.

→ *Changes in procedures:* Voter registration was deferred by 15 days (although 45 were requested) and registration centres changed. The government called for more civic education and intensified resources to cyclone-affected provinces. However, voter registration targets were not met. Election authorities did not have a crisis management procedure or special voting arrangements for displaced voters. One positive achievement is that with assistance, tents were procured for use as polling stations on election day.

Possible ways for EMBs to manage climate-related risks:

→ **Map climate risks to election processes.** EMBs can engage with climate change experts and with other government departments to identify and learn more about the most relevant climate risks and any planning and strategizing by the government and other stakeholders to respond to the risks. The information-gathering efforts can focus on overall national risks and more localized ones for different parts of the country. The results of these efforts can enable EMB operational plans, risk management and contingency efforts to cover the most relevant hazards. The information gathered also can help EMBs and other stakeholders to identify of what support may be available and what further assistance may be needed from other agencies. For example, national disaster management agencies may be able to provide regular risk assessments, help with communication about elections during an incident, and help electoral staff reach required locations. Information about the most relevant hazards, likelihoods and possible impacts can also be found online in various global databases.[93] Key issues to look at include:

- Changing temperatures and humidity levels
- Changing patterns of rains
- Risks of hurricanes, cyclones and typhoons
- Flood risks
- National and local contingency plans and communication structures
- Responsibilities of different agencies and their relationships to ensure risks do not fall between agencies and remain unaddressed

→ **Assess the potential impact of climate risks as part of electoral planning.** After specific climate risks are known and understood, an EMB could conduct an assessment of exposure of electoral processes to these risks and aim to identify activities that might be affected, the likelihood of such impacts and the possible effects. Such an assessment can help an EMB to prioritize the risks that are most likely to cause disruption.
UNDP and IFES have expertise in supporting EMBs in assessing the impact of climate risks on elections, including through the development of tools and recommendations. For example, IFES's self-diagnostic tool 'Addressing the Impact of Climate and Environment on Elections (ICEE)' enables EMBs to assess preparedness and risk mitigation techniques for climate disasters and environmental displacement. Also, there are various general tools (not specific to elections) that can help support this process.[94]

For example, extreme rainfall could affect ability to deliver electoral materials on time and prevent voters from reaching polling stations on election day. Extreme heat may influence both electoral staff members' ability to conduct their duties and voters' willingness to travel or queue to register or vote. These challenges may have particularly notable impacts on communities already at risk of being disadvantaged or marginalized, such as persons with disabilities, women, older populations and minority groups.

→ **Develop risk management strategies and plans for identified climate-related risks.**
These strategies and plans are a crucial component of EMBs' business continuity and disaster recovery capacity.[95] Such preparation may be undertaken as part of normal risk and contingency planning or as a standalone exercise. It involves developing risk management action plans to minimize negative outcomes and to adaptively manage climate risks. These strategies and plans would ideally be developed early in the electoral cycle to give time for developing and testing measures and in case any legislative changes are needed. The process also involves monitoring, evaluating and adjusting strategies as needed—either as standalone exercises and/or as part of post-election lessons learned exercises.[96]

Below are some illustrative examples of risk management actions:

Climate risk	Possible impact	Examples of risk management actions
Heatwaves	Health risks for staff and voters	→ Have a policy on heat, particularly in countries with maximum legal temperatures for work.[97] → When possible, consider the hours when most activities will take place to avoid the strongest sun/heat periods. → Provide cooling measures such as fans, shaded areas for staff, shaded space for voters to queue or rest, and air conditioning if possible. → Provide access to water and first aid as part of a duty of care. → Train staff on actions to take to prevent and manage the effects of heatwaves.
Heatwaves	Electronic equipment failure	→ Keep electronic equipment in the shade and in cool conditions. → Check equipment regularly for warning signs. → Arrange for data backup in case of device failure. → Consider including paper-based backups for vital information or functions.
Increasing temperatures and humidity	Adhesive failure on seals of tamper-evident bags and envelopes, compromising an electoral integrity measure	→ Specify likely temperature and humidity conditions at the time of use in procurement specifications. → Request suppliers to provide materials and adhesives that have been tested for the anticipated temperatures and humidity levels. → Order and distribute additional materials in case some materials fail. This may require some additional warehousing, transportation and distribution considerations. → Consider alternative ways of securing bags and envelopes that do not involve glue.

Flooding	Inability to access voter registration and/or polling stations to deliver or collect materials, and/or access ability limitations for staff, voters, security personnel, agents, observers and media representatives	→ Engage with weather experts (from governmental departments and/or external partners) to understand the likelihood, locations exposed and anticipated timeframe. → Consider bringing some deliveries earlier, adding buffer time in planning timeframes, and contingency measures such as alternative modes of transport, routes and providers. → Ensure emergency response and disaster recovery communication measures and contacts are available to everyone involved in the process. → Include provisions in logistics partner contracts as is possible. → Reach out to and engage with state security services, including military if appropriate, about potential collaboration and assistance. → Recruit staff from the area so that less travel is involved, (This consideration should also take into account potential benefits there can be of having some staff from other areas working in registration and polling stations.) → Discuss challenges with local stakeholders so they are aware of any possible problems and measures being considered to address them. → Change the date and/or locations for polling and other activities as needed (if legally empowered to do so). Discuss with stakeholders and provide immediate public information and explanation. → Consider special voting or registration arrangements.
Cyclones and typhoons (most likely affecting island nations and difficult-to-reach coastal areas)	Inability to access coastal areas and islands within legally specified timeframes	→ Include force majeure provisions, including specific criteria, mechanisms and proportionality for delays and postponements. → Discuss plans with stakeholders. → Undertake real-time monitoring of climate conditions that may affect electoral activities. → Provide public information and explanation as soon as possible.
Extreme rainfall	People are unable or unwilling to electoral sites. Cancellation or delays in scheduled transport	→ Provide shelter that may be needed at polling stations. This could include, for example, space for people to queue indoors or tents to avoid standing in the rain. → Provide equipment for rain, such as ramps to manage mud. → Provide alternative transport for staff. → If legally permitted, and in discussion with stakeholders, go to voters (where possible), for example with boat transportation. → Consider special voting or registration arrangements.

→ **Incorporate climate resilience in identification of polling and other electoral sites.** Include specifications for climate-resilient infrastructure for polling stations (according to the risks identified for the area). This may involve trying to use flood-proof facilities, backup power sources being available and secure communication systems on site. However, in practice an EMB may be limited in terms of available electoral sites to use, and therefore may need to identify its own backup plans and resources. For example, the Fijian Elections Office identifies a reserve site for all polling stations (in another location/village), an action taken in response to increasingly challenging weather conditions and elections taking place during cyclone season.

→ **Incorporate climate resilience in procurement requirements.** Inform suppliers of the specific risks and request that they share suggested solutions suitable for the context. The relevant items and services might include, for example, event structures, temporary shelters and tents.

→ **Establish robust provision for data management capacity during climate-related disruptions.** Managing information and electoral administration data in the context of climate change requires robust processes to ensure continuity of operations in the event of climate-related disruptions. Storage planning and conditions should reflect the likely climate risk exposure and ensure ongoing data protection and functionality. For example, if flooding is a risk, storage facilities are better located at a higher elevation and protected. And if higher temperatures and wildfires are an issue, it is important to protect facilities from overheating and catching on fire.

→ **Provide staff training and capacity building.** Provide training to election officials and staff on climate risk awareness, preparedness and response strategies. This might include simulation exercises to test readiness for climate-related disruptions and to enable revisions and refinement of response plans.

→ **Promote stakeholder awareness of risks and measures taken.** Educate the public on the potential impacts of heat and extreme weather on elections and the measures in place to make it easier for them to participate. This might include informing voters about the possibility of polling station relocations and extended voting periods and resources available on site (such as water and shade) to make voters more comfortable and able to successfully cast their ballots in the least-stressed conditions possible. Education and awareness activities initiated in advance therefore might help to promote voter engagement and confidence in situations that might otherwise seem too difficult. An EMB can also establish mechanisms for stakeholders to report challenges or suggestions related to climate risk management during the electoral process.

→ **Consider the development of special voting arrangements.** This includes voting outside of polling stations, in advance, or using a voting intermediary.[98] Such arrangements can have integrity and cost implications that need to be considered and should be discussed with and accepted by other electoral stakeholders to the fullest extent possible. While special voting arrangements can increase access to polling (or voter registration), there is a risk that such efforts could be done disproportionately or unfairly and thus could erode public trust.

Internally displaced persons (IDPs)

The UN Secretary-General Gutierres has said that although special measures to promote the participation IDPs are not essential for credible elections, they have important benefits in both the short and longer term for all countries. Most importantly, ensuring that IDPs are able to participate can strengthen the credibility of elections as well as contributing to durable solutions for displacement and reducing sources of conflict.[99] This sub-section looks at the overall issue of IDPs in electoral processes, including in regard to displacement patterns, international instruments, potential benefits and risks, and possible special measures on their behalf.

The number of IDPs around the world has risen steadily in recent years due to disasters and conflict, and it is anticipated that it will increase with climate change. As noted by the Internal Displacement Monitoring Centre (IDMC), "No country is immune to disaster displacement, and without action, climate change will force even more people to flee." According to IDMC's 2024 report, some 7.7 million people were displaced globally as a result of disasters at the end of 2023.[100] Other findings include that disasters triggered 26.4 million new internal displacements or movements across 148 countries and territories during 2023 and that 68.3 million people were living in internal displacement as a result of conflict and violence at the end of that year. It was estimated in another report from 2024 that "around half of the countries most vulnerable to the climate's increasing volatility are also grappling with armed conflict."[101] In addition to formally recognized IDPs, there may also be people who have had to move away from their homes but are not officially categorized as IDPs.

Sudden-onset displacement can bring multiple challenges for electoral participation. There are often numerous complications and challenges regarding electoral participation for people who have been displaced, and especially for those displaced abruptly or unexpectedly. For many of them, it can be hard to access their original polling station—and even if they could get access, there may also be security problems in the area. IDPs often find it difficult to find information on how to participate (particularly if they have moved to a part of the country that speaks another language), and they often have limited access to information about obtaining required identification documents, to campaign information, and being able to make complaints. These and other challenges can be particularly problematic for displaced persons already disadvantaged or at risk of marginalization. For example, persons with disabilities often face greater risks to their safety and security and challenges with evacuation processes, and temporary shelters are not always accessible.[102] Women also have increased risk of gender-based violence during displacement and therefore may face additional barriers in accessing electoral services.

Slow-onset displacement can also bring challenges for electoral participation. Moving registration location can be challenging, for example if eligibility criteria require a person to have lived in a constituency for a minimum period of time and if the process for acquiring documentation is burdensome. There is growing recognition of the importance of IDPs having a choice to vote for the constituency to which they are displaced or their constituency of origin.[103] However, this practice can have considerable implications for EMBs because the voters' preferred constituency must be established in advance (during voter registration).

A human rights approach should influence and inform planned relocations of entire communities in a context of climate change. The Special Rapporteur on the Human Rights of IDPs observed in 2024, "Planned relocations can endanger a wide range of human rights,"[104] adding that the rights and dignity of affected individuals and communities before, during and after relocations should be protected, with particular attention to the autonomy, choice and consent of all those relocating. Therefore, relocation action plans in constituency-based elections, need to consider whether people will vote for candidates in their constituency of origin or their new location because of practical implications for organizing elections and EMBs operational planning. A 2021–2022 global mapping exercise identified 408 cases of planned relocations in 78 countries, and in-depth analysis of 34 well-documented cases found that nearly half involve the relocation of Indigenous Peoples (who may have their own specific circumstances and needs when it comes to participation in elections).[105]

A variety of instruments and materials refer to the importance of IDPs' electoral participation. The Guiding Principles on Internal Displacement, endorsed by the 2005 UN World Summit, is the main international agreement covering internal displacement. According to that document, IDPs should have "the right to vote and to participate in governmental and public affairs, including the right to have access to the means necessary to exercise this right."[106] A 2022 report on electoral rights from the UN Special Rapporteur on the Human Rights of IDPs stressed, among other things, the importance of IDPs being able to vote in their location of displacement for either their constituency of origin or displacement, and that they be involved in decision-making about special measures intended to support and maintain their electoral participation.[107] In 2021, IFES also published a paper specifically on the electoral rights of environmentally displaced persons, and other publications on the electoral participation of IDPs in general are also available.[108]

Electoral participation enables IDPs to influence policy and hold national and local governments to account, with potential implications for environmental policies. Non-participation increases the risk of alienation, discord and instability among IDPs as well as further marginalization. Failure to ensure or enhance their participation is also a missed opportunity to finding good and equitable solutions to environmental challenges. As the Special Rapporteur on the Human Rights of IDPs noted in a 2022 report, "The political participation of internally displaced persons can also help to shape policies on climate change mitigation and adaptation, disaster risk reduction and reconstruction efforts."[109]

All special measures designed and implemented for IDPs should take into account the national context and considerations such as the overarching need to maintain overall election integrity and stakeholder confidence in electoral processes. When looking at potential special measures, it is important to consider possible risks, including in regard to operational challenges, potential for fraud and stakeholder confidence in the process. As the UN Secretary-General Gutierres said in 2023, "Such measures typically entail significant legal, political and operational complexities, and not all approaches may be feasible under all circumstances."[110] The UN Secretary-General has also noted, "Ensuring active consultation with internally displaced communities and access to disaggregated data and research on the participation of internally displaced persons in political and electoral processes is necessary for enabling informed and consensus-based decisions."[111] Some circumstances may require or best be responded to with temporary short-term measures such as extending voter registration deadlines, allowing for mobile polling and/or having more flexibility over required identification documents. Depending on the national context, it might be possible to implement such provisions only on a limited scale or not at all.

Ideas for EMBs on IDP participation:[112]

→ **Undertake inclusive consultations on the electoral participation of persons experiencing or at risk of internal displacement.** Such efforts should involve the full inclusion of IDPs and communities that are vulnerable to environmental degradation and displacement, as well as other stakeholders more broadly.

→ **Collect IDP data and prepare options and planning information.** This involves working with other agencies to collect information on displacements and future risks. It is important to look at different implementation options for electoral participation and consider potential risks, benefits and financial implications.

→ **Propose possible legal amendments to enable IDP participation, as appropriate.** This may involve reviewing documentation requirements, residency criteria, and any policies or precedents regarding IDPs' ability to choose to vote in their constituency of displacement or origin.

→ **Develop and introduce special measures to promote IDP participation within the overall legal context.** Such special measures may include additional voter registration/transfer facilities, enabling quicker and easier electoral/civil documentation, additional outreach and information (including in different languages), disinformation initiatives, and reviews of security provisions. Special measures are best developed well in advance and with the involvement of IDP communities. It may not always be possible to introduce sufficient special measures to overcome all challenges while also maintaining the integrity of the process overall. In such cases, any limitations on IDP participation should be reasonable and justifiable in the national context.

→ **Involve IDPs in electoral processes, including as staff.** In addition to involving IDPs through consultation, displaced persons can also work as electoral officials to promote community links and trust in electoral processes.

→ **Raise awareness on IDP participation through staff training and IDP communication.** It can be helpful for all staff to understand the challenges IDPs face and the measures being taken to ensure and increase their electoral access. Raising awareness more broadly with other electoral stakeholders can also help reinforce IDPs' rights, which can often reduce the risk of political marginalization or manipulation. It is also helpful to include public images of and information on IDPs' participation in voter registration, voting, as candidates, and working as electoral officials.

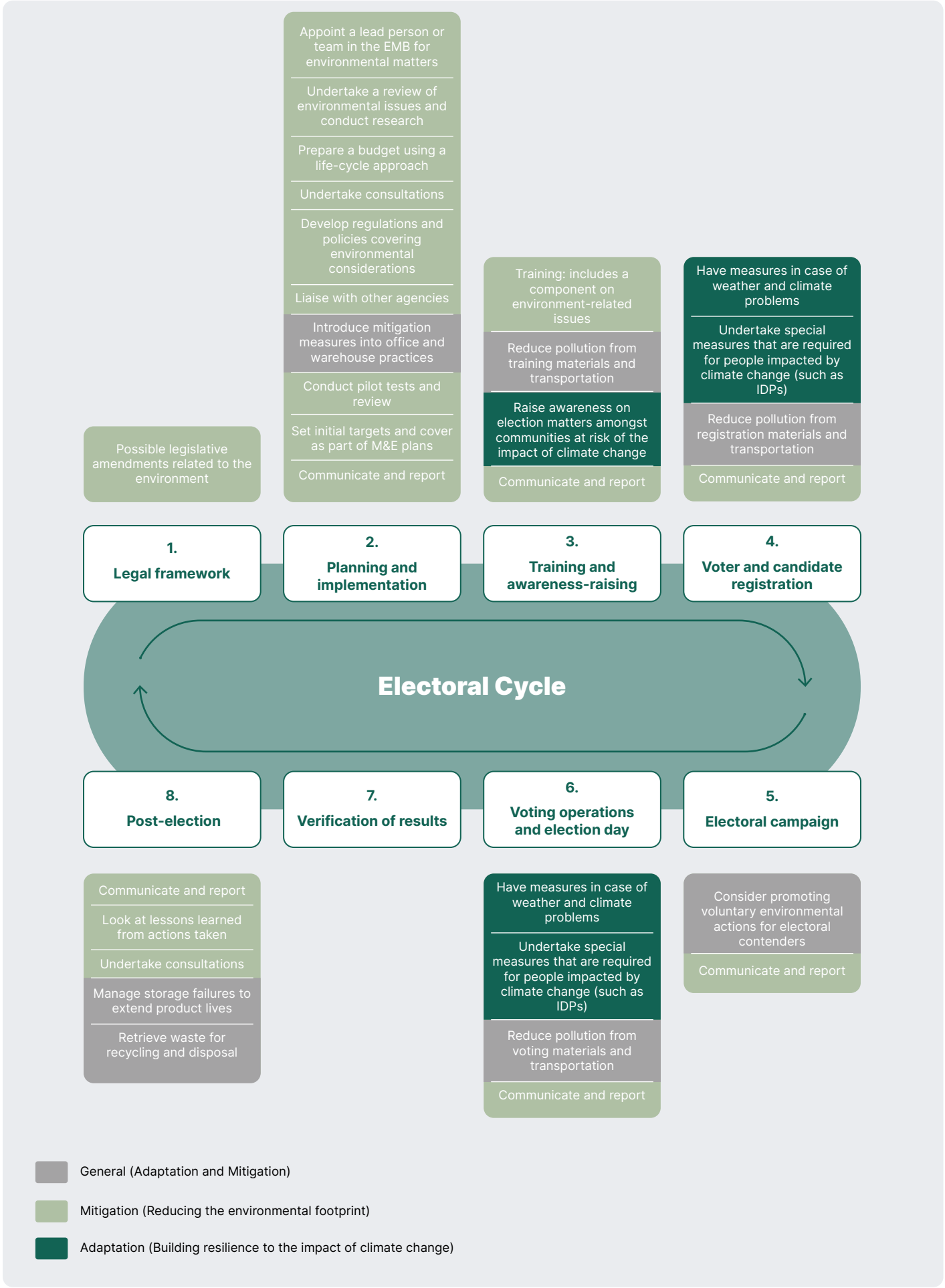
In addition, various legal measures may be needed or useful to support IDP participation (see Section 4.1 on parliaments below).

3.3 Step-by-step development of EMB environmental strategies

This section includes suggestions on *how* EMBs could take environmental-related actions where possible and appropriate, while ensuring electoral integrity and stakeholder trust. The suggestions aim to build on actions already taken by EMBs to oversee and strengthen electoral processes in general. The suggested actions represent an effort to support EMBs in integrating environmental approaches within the their wider work and considerations, for example by building in environmental components to routine consultations, planning and engagement and collaboration with other electoral stakeholders.

Figure 8 includes a diagram of an electoral cycle approach incorporating environmental issues into the work of EMBs. It shows some of the key actions that can be undertaken at different stages of the electoral cycle. Most actions are relevant to both mitigation (reducing the environmental footprint of elections) and adaptation (holding climate-resilient elections). Specific mitigation measures are in **light green** and specific adaptation measures are in **dark green**.

Figure 8. **Possible environmental actions across the electoral cycle (mitigation and adaptation)**



Possible steps to take

→ **Consider environmental rights and commitments in balance with EMB responsibilities, capacities and the need to maintain full functionality and electoral integrity.** All environmental commitments and rights need to be balanced with other human rights, responsibilities and duties that election administrators are responsible for upholding.[113] Full electoral functionality needs to be maintained, so that election processes do not get compromised or stakeholders lose confidence as a result of any changes introduced for environmental reasons. Weakening of the integrity or smooth operation of an election could have political stability and security risks. Specialized checklists can be used when making environmental-related decisions to help to ensure a full range of considerations are taken into account.

→ **Appoint a lead person or team in the EMB responsible for environmental matters.** As a start, a lead person or team could identify and manage preliminary EMB actions and consider possible resource needs for further steps. Ideally, a dedicated person or team for environmental matters could then be built into the staffing plan, with a broader remit and sufficient knowledge and training on environmental issues.

Examples of what the person or team could have responsibility for include maintaining an overview of relevant government commitments and policies; engaging and coordinating with other state agencies; contributing to training; organizing consultations; commissioning research; integrating environmental aspects into procurement specifications and operations; integrating climate-risk considerations; organizing reviews and contributing to lessons learned actions; and preparing public information and reporting. To adequately fulfil such responsibilities, the person or team should have expertise related to the environmental footprint of elections and/or distinct separate expertise to address the impacts of climate change on elections.

→ **Undertake an environmental review.** Such a review could focus on one of two main areas—reducing the environmental footprint of elections (mitigation) or adaptation to climate change—or on both areas. A review could cover topics such as (1) general climate and environmental issues in a country; (2) environment commitments, strategies, policies and measures taken by the government; (3) the potential impacts of climate change on election processes and possible measures to take to adapt and respond to them; (4) minimizing the environmental footprint of election processes and possible mitigation measures to take; and (5) views, needs and priorities of communities vulnerable to environmental degradation, related civil society organizations and other stakeholders.

An election administration may be able to conduct such a review itself or may get support from other government agencies and/or technical assistance partners. EMBs could also contract out aspects of such reviews to organizations specializing in environmental impact and sustainability.

For example, the Electoral Commission of South Africa has commissioned research on the environmental impacts of the country's election processes. On the basis of the findings of this research, the commission is considering training and awareness raising, establishing an environmental management oversight unit within the commission, and preparing public environmental performance reporting for increased transparency and accountability.

Research could also be undertaken to provide information and data for decision-making and to help explain choices and actions to stakeholders. An audit of current practices is one type of research that could be useful. It offers a baseline to enable the monitoring of progress in areas relevant to environmental footprint and impacts, such as how many bottles of water have been purchased in a period, how many kilowatt-hours (kWh) of energy have been used, the type of energy used, and/or the proportion of waste that was recycled or sent to landfill. Research could also look at comparative practices in other state agencies and countries, or market analysis of different procurement issues and options.

→ **Consult widely, including with communities vulnerable to the impacts of environmental degradation and disadvantaged groups, civil society organizations working on environmental issues, other electoral stakeholders more broadly and electoral staff.** Consultation can help inform an EMB, raise awareness, and promote stakeholder alignment with changes. It is important to hear directly from communities about their challenges, needs and suggestions, and that the voices of those most at risk are heard and are central to the development of policies and plans, including under-represented and disadvantaged persons such as women, youth, persons with disabilities and Indigenous communities.

Various international agreements refer to the importance of people being actively involved in matters that directly affect them and having a chance to influence policy. Often, there is an emphasis in such agreements on those who are most vulnerable, and in terms of environmental degradation and climate change they include people who are living in communities at risk of the negative impacts and those who have had to make climate adaptations. Among the most highly vulnerable are those who are at risk of displacement, including communities that may have to undertake planned relocations.

However, reaching such groups can be challenging given their sometimes-fluid living arrangements, remote and geographically dispersed locations, limited communications infrastructure, low levels of literacy in some cases, and sometimes an under-representation of women and disadvantaged groups in traditional governance structures and local leaderships.[114] It can be helpful to try to access communities through civil society organizations, community-based organizations and traditional structures, including to reach a wide range of people within a community. Additional time and resources may be required, including for face-to-face meetings and translation. Such consultation is more effective if it is regular—rather than one-off or just a couple of events—and if it takes place with a range of people including the most vulnerable, not just the community elite.

Electoral authorities can also consult with environmental and climate groups to gather their thoughts and suggestions about reducing the environmental impacts of elections and adapting to communities' changing needs in a context of climate change. These discussions can help an EMB understand more and gain additional allies in making changes and building trust. Such groups may also be useful in monitoring the situation on the ground, for example of waste left after an election.

Consulting with political parties can help build trust and acceptance of EMB decisions and changes.[115] For example, when considering the possibly of using a different sort of indelible ink (for marking voters' fingers when they cast their ballots), it can be useful to explain the issues and the costs and have party representatives try the different inks and get their feedback. Also, for example, the action of shredding ballot papers and forms (after legal deadlines and challenges have concluded) in order to recycle the paper, could become misinterpreted and controversial if not understood by parties and contenders.

Similarly, consulting stakeholders more broadly, including the public, can help an EMB understand more about general expectations. This can be useful in planning actions for environmental-related mitigation and adaption and for seeking and receiving additional financial support to implement changes. Broad consultations of this sort could be undertaken through surveys, focus groups and general feedback. For example, the Fijian Elections Office is planning to gather stakeholder opinions on possible environmental-related measures through its regular post-election public perception survey. The input can help the EMB to identify suitable measures and justify additional steps as well as needed resources.

It can also be helpful to get the views of election administration staff for their ideas for changes to make. It can be useful to encourage staff to think creatively for solutions and across all aspects of an EMB's work. It can also help staff feel valued and more aligned with changes the leadership may make in regard to environmental measures.

In all election administration activities, there is an onus on consulting and involving groups at risk of being marginalized or disadvantaged, including women, persons with disabilities and young people. This onus is emphasized in a range of universal treaties and agreements, as well as regional instruments. For example, Indigenous Peoples have often contributed the least to climate change but may be the most affected by its consequences, often being dependent for their survival on immediate natural resources and fragile ecosystems. Authoritative treaty interpretation calls on state parties to "ensure that members of Indigenous Peoples have equal rights in respect of effective participation in public life and that no decision directly relating to their rights and interests is taken without their informed consent."

→ **Engage and collaborate with other agencies.** Multi-disciplinary engagement at the national and sub-national levels can enable EMBs to learn from others and build on knowledge and tools used in other sectors. Various government agencies may be useful to engage with on a regular basis, such as those responsible for disaster management, environment and climate change, and waste management. It can also be beneficial to have regular links with meteorological services to be informed about long-term weather developments as well as more immediate events that could be disruptive. Another potentially helpful approach could be regular discussions with staff and representatives at other state agencies (at national or lower levels) that have introduced sustainability measures and learning from their experiences. In general, collaboration with other government agencies, local authorities and civil society can help to enable a coordinated response to climate risks.

→ **Start early and conduct pilot tests.** Discussions and decision-making early in an electoral cycle can leave time for research, pilot testing and broader-based trials of any changes that have operational implications (for example, during by-elections). Pilot testing can enable problems to be identified and worked out ahead of a full-scale roll out. This is important because some adaptations to climate change can be politically sensitive, for example arrangements for IDPs' participation. Therefore, it can be helpful or even necessary to have discussions well in advance of an election or likely displacements. As noted by the UN Secretary-General Gutierres, "Preparation and planning rooted in data-based understanding of potential climate impacts and risks can mitigate the impact of such disasters, including by reducing political tensions that could result from *ad hoc* decisions being taken."[116] Using the time between elections to look at environmental matters can also help an EMB justify staff being retained between electoral events.

→ **Set initial targets, monitor and review progress.** When planning and making decisions, it can be important to consider long-term risks and opportunities as well as immediate costs and benefits. For example, it is unlikely that the status quo will stay the same, which points to the usefulness of factoring in future possible changes to the climate in any decision-making.

One approach that may be easier is to start with actions related to the day-to-day running of offices and warehouses, and then look at electoral processes. Also, it can be helpful to first identify actions that are 'quick wins', as distinct from measures that are more complex and/or take longer to show results or impact. Ownership can be assigned to targets and first steps taken. For more complex actions, it can be helpful to agree a timeframe for revisiting potential opportunities at a later date and consider what additional expertise or external support may be required or useful.

Establishing targets for even just a few key areas to start can help overall changes seem achievable and motivate people for further actions and improvements. For day-to-day office running, these could include, for example, reducing or eliminating single-use plastic bottles by a certain date, reducing air travel by a certain percentage or aiming for 100 percent renewable energy. 'Owners' can be identified to support the implementation of changes, such as by helping spread the work among staff, engaging different teams and helping embed sustainability throughout the organization. Canada offers an example of the kind of target that could be considered. The country's Office of the Chief Electoral Officer has set a target of re-

ducing the use of printed electoral materials by 20 percent in the federal government's 2023–2027 Departmental Sustainable Development Strategy.

Monitoring and evaluation (M&E) can help ensure that more effective actions are taken and problems identified and addressed; moreover, this can also support funding requests. One useful M&E component could be to periodically undertake lessons learned exercises to consider the impact and effectiveness of various measures taken.[117] The findings can feed into future actions and EMB strategic and operational planning. Independent monitoring can help an election administration develop it's practice and contribute wider accountability and understanding of an EMB's environmental commitment. Independent monitoring can involve environmental organizations, observers, and civil society groups and community organizations including from hard-to-reach locations.

→ **Prepare a budget for sufficient resourcing.** The overall costs of preparing for and forestalling or limiting the impacts of environmental threats, including those linked to climate change, may be less than the costs needed to deal with the consequences after the fact. Even so, there could be considerable upfront costs. That is why additional budget may be needed for an EMB to be able to manage climate risk mitigation and adaptation activities.

A life cycle approach to budgeting can be most efficient and comprehensive, by considering not just the immediate costs of items but the total lifespan/utility of products including production, maintenance and disposal. Additional costs may include infrastructure investments, technology upgrades, longer-lasting materials, contingency planning, additional waste disposal measures, additional staff and commissioning research. Some costs may change in response to climate change, for example higher insurance premiums given the increased risk of extreme weather events.

Budget requests should be accompanied by clear, data-based explanations and reporting to help decision makers—including lawmakers, when budget requests require legislative approval—understand what is being requested and why. There may also be opportunities to explore external funding or partnerships with organizations focused on climate change mitigation, climate resilience or disaster risk reduction.

→ **Communicate and report.** Full public information and explanation to stakeholders about any new policies and actions can help people know what to expect and to accept and support changes. By building trust, this kind of transparency can also contribute to lessening risks of misinformation and disinformation as well as non-acceptance of new practices. Outreach to environmental groups and the media can be useful to encourage them to explain and support EMBs' actions.

Providing public reporting on specific actions and changes, including the reasons for them and any impacts, can help develop and strengthen a culture of environmental accountability in the EMB and among other electoral stakeholders while also helping to justify future funding requests. An EMB's strategic plan and annual reporting are examples of where such public reporting could be provided, Regular reporting can cover situational analysis, plans, targets, progress, challenges and lessons learned. Monitoring impact can help make funding discussions easier and more successful in the long run. For example, adaptation reporting could cover the number of days of delay due to climate factors, the number of voters affected and associated costs. Mitigation reporting could, for example, cover actions taken and savings being made in regard to waste, electricity and materials purchased and consumed.

Sharing progress within an EMB can help motivate staff and increase momentum by showing results. This could include a notice board showing target progress, information in an internal newsletter, and/or verbal acknowledgement from the EMB leadership.

→ **Participate in international forums and networks to share best practices and learn from other countries' experiences.** Opportunities for such engagement and discussion may include a dedicated workshop or a session as part of regular regional or international forums for EMBs. Another option could be specialized country or regional groups of EMBs and other electoral stakeholders formed on the basis of similar challenges and circumstances being faced, for example island

nations or countries experiencing or at greater risk for extreme heat. Such sharing of information will likely be particularly useful given that environmental issues are a new and evolving area of focus for most EMBs.

Concerns, risks and possible solutions

Various concerns, risks and possible solutions have been identified regarding environmental-related steps EMBs could consider taking. Several are listed below:

→ *Lack of knowledge and expertise within the EMB on environmental, climate and sustainability matters.*
This can be addressed in various ways, including engaging with other government agencies, contracting-in expertise, linking with academic specialists, meeting with environmental-related civil society organizations, commissioning research, requesting additional budgeting for a dedicated expert/team at the EMB, and attending training and workshops.

→ *The financial costs of making changes.*
There can be extra costs involved, especially upfront (for example, to buy materials that can then be reused). One useful strategy to help decision makers understand proposed financial changes could be to document additional costs and likely savings over time, as well as the environmental benefits and risks of not making changes. An important consideration for EMBs and financial decision makers is that upfront costs may be smaller than the long-term costs involved in not making changes. A dedicated budget line for environmental activities can help EMBs plan and monitor costs and impacts over time.

Many international donors increasingly acknowledge the importance of financing effective solutions related to the environment. Therefore, an EMB may also have access to 'green financing', which refers to donor funds specifically focused on environmental management or climate resilience.

→ *Changes can be administratively burdensome.*
It is advisable to plan and make changes during the time between elections when there are generally fewer tasks for an EMB to attend to. The burdens can also be reduced by having a dedicated person or team to lead on all environmental-related changes. That internal support can be included in budgets.

→ *Changes may not be politically popular, especially at first, and may be divisive.*
EMBs may be concerned or uncertain about how political parties will engage and respond to proposals for change, particularly if environmental issues are politically divisive in a country. However, not taking action may also become controversial with some parties and the general public, may have increasing risks over time, and may not be consistent with broader national commitments and interests. It is also worth considering that various legal cases have successfully been brought in recent years against governments for inadequate climate action.[118]

Politically sensitive changes can likely be best addressed by starting early in the electoral cycle, so decisions are not made in the heat of an election. It can also be helpful to have solid and clear evidence for planned and proposed changes gathered in advance, so that it can be referred to in discussions and consultations with parties and other electoral stakeholders. Also, testing changes on a small-scale or trial basis ahead of general elections can allow problems to be worked out before a full roll out. Consistent and transparent communication throughout will also help reduce the risk of changes being used politically against an EMB.

→ *Increase expectations of technological and digital solutions, although these have their own complications.*
The electoral risks and the environmental costs of technology are often not known about or sufficiently considered. Therefore, they should be part of all discussions and consultations about any environmental-related changes. Technology may help reduce GHGs and waste (for example, through less paper being used), but digital solutions also have their own environmental costs (as discussed in Section 3.2 of this guide).Possible benefits from technology also need to be con-

sidered against the risks to the electoral process and broad stakeholder and public confidence.[119] Use of technology therefore warrants a comprehensive review in which all opportunities and risks are discussed, consensus among other electoral stakeholder, and pilot testing before proceeding.

→ *There are currently few examples in the electoral domain worldwide to learn from or follow.*
Integrating and prioritizing environmental concerns into election processes is a relatively new area for EMBs in general. However, there are examples of adaptation in the electoral context in some of the countries most affected by natural hazards and climate change. Domestic and relevant international examples of potentially useful mitigation actions may also come from other government bodies, private businesses, and organizations and institutions in other sectors that have already evolved their practices. These mitigation examples might be in regard to, for example, events management, logistics, corporate procurement and travel.

It can be difficult for EMBs to implement changes if other state agencies are not taking actions themselves to reduce their environmental footprints. But at the same time, that situation could open opportunities for EMBs to show leadership by developing policies and practices in regard to the environment. There is potentially wide scope for an EMB to act as a leader this way if it is constitutionally independent.

→ *Getting accused of 'greenwashing' and criticized for not doing more.*
Broadly speaking, the term 'greenwashing' refers to claiming or creating the perception that activities, products and services are more environmentally friendly or sustainable than they actually are. Accusations of greenwashing usually stem from the way actions are communicated, rather than the actions themselves. The risk mostly arises when communication is misleading (intentionally or not), vague or overstates the benefits and impact of the actions. Transparent, informed and authentic communication strategies can help mitigate this risk. EMBs can try to align with good practices regarding accurate green claims and also with any legislation or regulations to prevent greenwashing (these exist in a number of countries and are rapidly being rolled out).[120]

An EMB can explain that it is taking a step-by-step approach and regularly reviewing and evaluating its environmental-related actions, taking extra attention to be careful because of how crucial elections are and that the EMB may be regarded as critical infrastructure. An EMB can also show how it is progressing over time and is committed to further developing its practices.

→ *People may not believe or trust what the EMB is doing.*
People may not see the value of the actions being taken by an EMB or believe it is actually doing all it says it is. To help address these concerns in advance, it can be helpful for an EMB to share maximum information and explanation on its actions, including with the general public to the extent possible. Another approach could be to invite environmental groups and citizen observers to undertake independent monitoring and review, and to make recommendations for improvements.

3.4 EMB promotion of environmental actions by others

The environmental actions of other electoral actors can affect public perceptions of electoral processes overall. For example, during the 2024 Mexican municipal election there were protester actions about "electoral garbage" making an election bad, and civil society groups in the Republic of Korea have complained about the huge amount of plastic waste generated by contenders in elections.[121] In these situations there could be a risk of citizens associating elections with electoral garbage rather than focusing on the benefits and gains from participation. To date, frustrations in certain contexts about electoral garbage appear to involve signs and banners (plastic and paper), posters, leaflets and give-away merchandise that ends up as waste.

An election administration may be in a position to promote positive environmental actions by other actors involved in the process. An EMB can set an example to others through its own actions and therefore put environmental responsibility on the agenda. It could also consider doing the following:

→ **Facilitate informed discussion with partners and stakeholders.** To help make the case for action by electoral stakeholders and other partners, EMBs could do the following: commission research and analysis to promote informed discussion; prepare presentations on environmental issues relevant to electoral processes; and provide opportunities for stakeholders (at different levels) to ask questions, hear each other's views, discuss and make suggestions. In terms of direct engagement, EMBs can take the lead in organizing or otherwise strongly support discussions about potentially beneficial environmental actions involving political parties, other government agencies, environmental experts and civil society groups. The discussions could cover both the environmental footprint of electoral processes and the impacts of climate change on the processes. These could be standalone events or part of regular meetings and engagements with stakeholders.

→ **Ask all key stakeholders, including political parties, to consider having a focal point for environmental matters.** The focal point could be someone who is already identified as the lead person to engage with the EMB on a regular basis or it could be another representative of the partner agency or political party. A focal point within each organization or institution can help raise the profile of environmental matters and put and keep the subject on the agenda. That individual can also help EMBs undertake consultations and maintain ongoing discussions and collaboration regarding environmental matters. Such lead persons can be asked to have access to the leadership / senior management to keep those leaders informed and get any input from them, and they can also help distribute information within their respective organizations.

→ **Ask for voluntary reporting from parties and candidates.** Political parties and other stakeholders could be asked to provide information related to the environmental costs of their electoral actions, within the scope of their ability to undertake such reporting. The information requested and potentially received could include the number of materials produced, use of recycled materials and waste management plans. They could also be encouraged to report publicly on their environmental-related policies and practices, including, for example, on measures they are taking to reduce waste and emissions and promote the inclusion of communities at heightened risk of the impacts of climate change.

→ **Possibly include environmental provisions in campaign codes of conduct.** Depending on its legal mandate, an EMB may have some discretion on the content of codes of conduct for campaigning. For example, in the Philippines, the Climate Change Commission called on the Philippines Commission on Elections (COMELEC) to formulate a policy that would prohibit contestants from using plastic campaign materials and hazardous substances (including tarpaulins, handouts, flyers and small flags). For the 2023 elections, contestants had to dispose of campaign materials in a specified way that enabled reuse, repurposing

and recycling under the guidance of various environmental groups.

The Election Commission of India (ECI) started a campaign against single-use plastics in 1999, based on an appeal by the World Wide Fund for Nature – India.[122]

After repeated letters from ECI over a series of elections urging parties and candidates to avoid use of plastic for election campaign materials, various court orders required ECI to develop plans to reduce the use of plastics in election campaigns. This resulted, in 2019, in ECI formally instructing electoral contenders to stop using environmentally hazardous materials. However, implementation is still a work in progress.

→ **Include environmental criteria when making arrangements with state agencies and other electoral stakeholders.** EMBs often rely on support from other state agencies, including local authorities for premises, transport and security services. EMB environmental policies and practices can help set an example and promote environmentally friendly action by others, for example in areas such as water refill facilities and the removal of waste. Through these and other efforts, an EMB may contribute to a positive legacy from an electoral event. Civil society organizations and other partners contracted to undertake voter education could be selected for participation based in part on their proposals regarding environmental considerations and management of waste.

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4 Other electoral actors

Other electoral actors

This section looks at actions other electoral actors might take to reduce their environmental impact. The information and suggestions are intended to help EMBs understand and discuss possible actions and provide some points for consideration for other electoral actors. The section looks first at parliaments, which have a crucial role in establishing legislative frameworks, and considers possible issues and actions where legal provisions might be necessary or valued. The second part of the section considers some possible actions by political contenders (parties and candidates), election observers, development partners and suppliers.

4.1 Parliaments and other legislative bodies

Some legislative amendments may be needed to enable climate mitigation actions by EMBs and also to ensure the sustainability of election processes in the face of climate change impacts (especially given that elections may be seen as critical infrastructure). For example, if there are seasonal risks of extreme weather, it may be wise to consider holding some or all elections at a lower-risk time of year. Displaced voters may also require different legal arrangements to be able to participate as voters and candidates from their new locations. Some priority changes could require constitutional changes, which means they would need a high degree of political consensus.

Any proposed changes to electoral legislation have a better chance of being supported and implemented if they are undertaken well in advance of a general election and with consensus. Starting early allows time for research, consultation and debate, and for any changes to be tested on a trial basis and then adapted as may be needed. In the words of the UN Secretary-General Gutierres: "The legal framework for an election…should ideally be developed through an inclusive, transparent and participatory process. The rules adopted should reflect broad political consensus to strengthen the credibility of the outcome those rules will produce… The potential for amendments to a legal framework to undermine confidence is greater when they are introduced without following the prescribed process, if they are undertaken shortly before an election, or if the process is not based on a broad national consensus."[123]

For legislative and policy changes related to mitigation of the environmental impact of election processes, it can be helpful to refer to constitutional or other legal provisions related to the environment. A growing number of constitutions explicitly mention the right to a clean and healthy environment and/or protection of the natural world for the benefit of current and future generations. Furthermore, a growing number of national laws refer to conditions and actions related to climate change and low carbon transitions.[124]

In addition, parliaments can support changes by showing interest in environmentally friendly actions and backing budgeting resourcing to help EMBs address environmental issues. Parliamentarians can ask questions and show support for EMB initiatives to address environmental considerations and to provide reporting to parliament and the public. Parliamentary approval may also be needed for budgetary changes and additional expenditures.

Listed below are various issues that can be considered when looking at the legal framework for elections.

Legislative measures for EMBs

References to environmental mitigation could be included in legislation, and where possible they could include language requiring electoral authorities to consider or minimize environmental impacts while upholding electoral integrity. Such references could

make it easier for EMBs to take actions to reduce their environmental footprint and to obtain adequate financial resources to do so. In addition to general provisions about minimizing carbon emissions and other pollution and protection of local habitats, more specific references could be proposed and included depending on the local context (for example, minimizing waste and undertaking recycling).

Broad requirements around climate resilience and adaptation could be included in legislation as part of efforts to position elections as critical infrastructure. Such climate resilience and adaptation provisions could underscore the importance of EMBs having independence to enable ongoing stakeholder confidence. The legislative requirements could, for example, promote EMBs to undertake reviews of the possible impact of climate change on elections, to have a focal point, to consult with at-risk communities, and to report publicly on measures planned and taken.

Such references to mitigation and adaptation could help align EMB activities to national environmental commitments and adaptation plans. Most countries have agreed, at a minimum, to the climate goals in the Paris Agreement, and therefore EMBs can be encouraged to align with those commitments and related national strategies.

Legislative measures for parties and other electoral contestants

Environmental awareness and actions by parties and candidates, during and beyond campaigns, could be promoted in law. For example, parties could be encouraged to publicly report on what actions they are taking to reduce the environmental footprint of their organization and activities. Stronger mandatory requirements could also be considered. To be accepted and effective, they should clearly specify what is required and include a clear and proportionate enforcement response (identifying the body responsible and graded penalties). Awareness raising should be conducted among parties before the new requirements are put in place, and there should be sufficient time for parties to adjust to them. Important factors to consider during the development of any such mandatory measures include their financial and resource implications, the capacity of relevant oversight authorities and the interest of all electoral stakeholders.

Specific requirements could also be made regarding materials, waste and protecting local habitats. For example, as part of declarations of campaign expenditure, contenders could be required to provide information about the volume of the printed materials they produced during the campaign, the proportion of recycled materials used, and the collection and disposal of their waste. This information could be made public to enable scrutiny of environmental impact. Stronger mandatory measures could also be considered, such as requiring parties to use recycled materials and to responsibly dispose of materials. There could also be a requirement for parties to protect local habitats when conducting campaign events.

Electoral timings

In some countries elections can be increasingly problematic to hold during certain times of the year because of natural hazards, and therefore the default timing of elections may warrant review. The escalation in frequency and intensity of extreme weather events such as storms and floods can fundamentally affect election processes. Extreme weather can disrupt all aspects of an election, including voters being able to get to services, staff being able to work and the transportation of materials. All such complications run the risk of causing delays, reduced participation and distrust among other electoral stakeholders and the public. The hot months of a year may also be increasingly difficult for holding elections, with heat making it harder or even impossible for voters to travel and participate and for staff to be able to work long hours. In addition, there may be a heightened risk of fires in periods of high heat that could further disrupt electoral processes.

To forestall problems and ensure high-quality elections that are fully accessible and trusted, it may be necessary in some jurisdictions to establish a default electoral period that is not during the most climatically vulnerable months. This would require a high degree of political consensus but may become more urgent and unavoidable if environmental threats continue to escalate.

It may be helpful to review and possibly extend the time allowed for various electoral activities to accommodate possible or existing climate disruptions, although potential changes should take into account other important electoral considerations. In places

with significant or growing climatically challenging conditions, EMBs need to have sufficient time for electoral preparations, including contingency planning in case of disruptions from natural hazards. Extra time and attention can ultimately reduce the risk of delays to the electoral processes or preparations being in some way compromised. For example, allowing more time for voter and candidate registration could reduce the risk that citizens lose the opportunity to participate if there are climate-related obstacles during these earlier periods of the process. However, timing extensions of any kind should take into account other needs and priorities, such as the political imperatives for an election to be held within a certain time, costs, and any implications for the overall length of the campaign period.

Legal provisions for *force majeures* may be helpful to avoid disruption and accompanying risks of political exploitation. Due to the increased threats, *force majeure* provisions are likely to be more essential to help provide an agreed framework for how to respond in case of major weather disruptions and disasters. Lessons learned from COVID-19 period could be instructive in this area.

The following comments from UN Secretary-General Gutierres provide an overview of important considerations about postponements or other changes to previously agreed electoral schedules: "Any postponements of elections should have clear timelines or be accompanied by agreement on a consultative process for determining a new date, and the postponement should be communicated clearly and comprehensively so that the public will understand from an early stage how their electoral rights would be affected. Moreover, any limitations on fundamental freedoms should conform with human rights obligations and be consistent with the principles of legality, necessity, proportionality and non-discrimination, while being time bound and subject to approval and oversight. Health-related or other crises should not be a time for political opportunism."[125]

Other specific legal provisions may need to be made, for example if voting cannot be continuous due to heat. Climate change and other environmental factors have direct impacts on the safety and health of workers across the world, and an increasing number of countries are introducing laws to address excessive heat in the working environment.[126] Electoral staff in particular may be at risk of heat stress, strokes and exhaustion (especially given the long working hours and sometimes stressful nature of the work). Legal provisions may be needed to enable changes in staff, breaks, and possible conditions for temporarily closure of electoral sites.

Enabling digitalization of certain aspects of the electoral process

Digitalization of parts of the candidate nomination or voter registration process can help make participation easier and more efficient in the context of climate problems and may reduce the carbon footprint of an election. As with all other aspects of overall electoral processes, however, any such changes should ensure that electoral integrity is maintained. Electronic submission of documents for voter registration and candidate nomination would eliminate or greatly reduce GHG emissions of paper and transportation and make it easier for people affected by a natural hazard or emergency. However, such changes could weaken the integrity in the registration and nomination processes if there are not effective safeguards, and also reduce confidence in an election. Digital activities and equipment also have GHG and other environmental costs that should be considered, including to avoid shifting the emissions burden to elsewhere in the process. The specific advantages to the environment and electorate of digital options should be considered against the risks and costs involved on a case-by-case basis.[127]

Decisions on digitalizing aspects of an electoral process are best taken as part of a broader approach to politically and financially sustainable decisions about technology. The following comments by the UN Secretary-General Gutierres offer a summary of some of the important considerations in this area: "While new technologies can be a tool at the service of electoral processes, the relationship of technology to the success of an election is not always straightforward… The process of considering innovations and of procuring equipment, if so decided, must also be credible. Broad outreach and consultations with all stakeholders and comprehensive and consultative feasibility studies should be carried out before introducing technological solutions, including on their financial sustainability. Furthermore, a gradual introduction through pilot projects is important, in order to thoroughly test innovations."[128]

Legal provisions to facilitate IDP participation

→ **Special measures may be introduced to enable IDPs to overcome multiple practical barriers to electoral participation**. As described in Section 3.2, IDPs often face unique and heightened barriers to electoral participation. However special measures for IDPs need to take into account the national context (including legal, financial and operational issues) and the need to maintain overall election integrity and stakeholder confidence in electoral processes. Some measures that could be valuable and effective in terms of IDPs' participation include:[129]

- → Enabling IDPs to vote in either their constituency of origin or displacement.
- → Reviewing eligibility criteria that may *de facto* obstruct registration or transfer of registration, for example residency duration requirements.
- → Enabling IDPs to obtain personal documentation that may be required to participate.
- → Reducing administrative and financial burdens, for example regarding forms, evidence required and deadlines, and there is no/minimal cost.
- → Ensuring that electoral participation is in no way linked to registration for humanitarian assistance or other benefits.
- → Providing additional financing to election authorities to enable special measures to be taken for IDPs' participation.

There may also be specific challenges related to climate change, if for example entire constituencies are no longer habitable with entire populations displaced. In such cases, a parliament may need to consider whether IDPs continue to have representatives for those constituencies, or if re-districting should be undertaken. Such decisions would depend on the constitutional and legal framework and will have political sensitivities and ramifications that need to be considered.

Out-of-country voting (OCV)

Climate change is causing an increasing number of people to leave their home countries and move abroad, temporarily or permanently, and these developments raise the question of their ongoing participation in home-country elections. Provisions for out-of-country voting (OCV) increase people's opportunities for participation and connection with their home countries. However, some risks are involved, including maintaining electoral integrity, which can be more challenging when operating out of jurisdiction; potential cost implications; and that changing the composition of the electorate is politically sensitive and can be controversial. Difficult situations can arise, for example, in situations with high levels of population movement. The majority of registered voters in a constituency could be based out of the country, which could affect decision-making and confidence in elected officials and bodies.

The international normative framework does not oblige countries to *guarantee* the exercise of voting rights for those who have left or fled their country.[130] While there may not be an international legal *obligation* to enable the exercise of voting rights for citizens living abroad, making provisions for them can help strengthen the credibility of elections. Decisions on OCV are complex and may be politically sensitive. Therefore, they are ideally made after broad national consultations and with a clear understanding of the practical, financial and political implications of extending voting rights to citizens abroad.

It is therefore recommended that any consideration of OCV involves an inclusive process of consultation considering a range of factors. For example, key factors might include the mechanism for the casting of ballots, whether in-person voter registration and candidate nomination would be required, what voter and candidate eligibility criteria would be required, and whether eligibility would be only for general elections or also for by-elections and local government elections. Another consideration is whether ballots from abroad would be cast for a home constituency or for one or more dedicated constituencies for the diaspora. Various resources are available for looking further at OCV issues.[131]

4.2 Political contenders

This sub-section focuses on possible environmentally friendly internal measures that could be taken by political parties and candidates. This guide does not discuss or refer to political parties' broader policies or positions on environmental issues. However, it is possible that in the future some green procurement conditions may become a requirement in political finance regulation in some countries, and therefore actions by parties may be subject to public scrutiny from an environmental impact standpoint. In other cases, there may be voluntary initiatives that could be undertaken, depending on the specific national context.

Listed below are examples of possible environmentally friendly actions that political parties and candidate could take:

→ **Have a public policy about minimizing the environmental footprint of party organization and campaign activities.**

→ **Provide public reporting on actions and specific measurements taken.**

→ **Appoint a focal point for environmental matters.**
A focal point can be responsible for being informed on key environmental-related issues and possible actions to take, engaging with the EMB and others on environmental issues, commissioning research, managing internal communication on the subject, and making proposals for the party leadership to consider.

→ **Take a life cycle approach to budgeting and undertake green procurement (see section 3.1).**

→ **Reduce paper usage and use vegetable ink for any printed materials.**
This may include having more digital arrangements, for example for membership lists and other administrative matters. Other potential areas of focus could include reducing the volume of leaflets, posters and other campaign materials and using vegetable ink to reduce pollution and waste.

→ **Reduce use of single-use items, plastic and imported goods.**
Campaign merchandise is often designed for a limited lifespan and materials are often wrapped in plastic. Instead, merchandise could be composed solely or largely of items that are reusable and are made locally (to reduce transportation pollution). Goods that are branded for the party, rather than the candidate or by the year of the election, can be reused and are therefore less likely to go to waste after an election. Drinks and food in single-use containers can also be replaced with refillable options.

→ **Have a waste management and disposal plan.**
Campaigns typically produce a lot of waste, for example including banners, posters, leaflets and other merchandise that needs to be disposed of after an election has finished or else it becomes electoral garbage and contributes to pollution and other negative environmental impacts. There can be environmental and reputational gain in collecting materials after use and storing for reuse or disposing appropriately.

→ **Ask candidates and supporters to undertake campaign activities in environmentally sustainable ways.**
Supporters can be asked for their suggestions for how to reduce environmental impact. Some examples may include taking public transport, candidates meeting people in person rather than giving out volumes of paper, and using refillable water bottles.

→ **Make temporary and permanent offices more sustainable.**
There are numerous possibilities for actions to take, many of them simple and basic. They include, for example, using energy efficient lightbulbs, buying second-hand furniture, recycling waste, using ecologically friendly cleaning products, having a drinking water dispenser, ordering food from local businesses, and having reusable cups, crockery and cutlery. Others including having bicycle storage facilities, trying to have all offices near public transport facilities, and organizing carpools and other shared transportation options. And finally, benefits and effectiveness are even more likely where there is a lead person in the office on environmental issues and sustainability and policies on reducing waste, minimizing printing, etc.

→ **Include communities vulnerable to environmental degradation.**
This involves reaching out to and listening to people's views in these communities, giving them opportunities to run as candidates and be in party leaderships, and considering additional support that could help people disproportionately affected by environmental degradation easily participate in the election process.

→ **Support the EMB in making changes.**
Political contenders can show support to an EMB on environmental matters by raising issues and offering suggestions, supporting additional resourcing required, engaging in consultation, and whenever possible accepting and agreeing with decisions that consider environmental factors.

4.3 Election observers

Observers can help advocate for and support EMBs in addressing environmental issues, including those related to climate change, and to have the resources they need to do this. Observers can be helpful and supportive by acknowledging achievements and identifying other areas of possible improvement and/or risks for future electoral processes. Their input can be more targeted and useful if they are aware of and take into account any legal obligations or policy directives that EMBs are responding to, or if voluntary measures are being taken. Observers' engagement could help make an EMB and other actors more environmentally transparent and accountable while also improving their ability to document and respond to changing challenges.

Points related to the environment that observers could consider when analysing an electoral process:

→ **What legal provisions and commitments are there related to the environment?**
There may be constitutional or other legislative provisions regarding the environment that could or should affect electoral processes. The country may also have signed or ratified international treaties and agreements related to the environment. National policies and reporting may also be considered, such as on Nationally Determined Contributions (NDCs) in the framework of international climate action planning.

→ **Does the EMB have any policies or practices related to reducing its environmental footprint (mitigation)?**
This may include looking at whether the EMB has a lead person or team on environmental issues, whether and to what extent policies are being implemented and monitored, how any environmental actions taken affect the electoral process, and whether the EMB has sufficient resources and support to implement mitigation measures.

→ **Does the EMB have any policies or practices related to dealing with the impact of climate change (adaptation)?**
This may include looking at whether and to what extent adaptation policies are being implemented and monitored, whether any measures taken appear to be effective, and whether the EMB has sufficient resources and support to implement adaptation measures.

→ **Does the EMB consult with communities vulnerable to environmental degradation and environmental-related civil society organizations?**
This is about whether the EMB hears the views, needs and priorities of such groups regarding electoral services for them and EMB actions more generally. Observers can seek to assess whether the views of under-represented and disadvantaged groups are heard (for example women at risk of displacement), and whether the EMB is also consulting with other electoral stakeholders and the public more widely about possible environmental-related measures.

→ **Does the EMB share information publicly about what it is doing?**
It is helpful if an EMB can make information easily available to the public on what it is doing in regard to environmental issues and share its policies, plans and monitoring results.

→ **What are political parties and candidates doing in regard to the environment and their internal organization and campaigning?**
Parties may have public policies and identified focal points. They may report regularly on actions taken and may be active in supporting an EMB in developing measures related to the environment.

Internal actions related to the environment that observers could consider taking:

→ **Look at points related to the environment when analysing, reporting and advocating for improvements in election processes.**
This can be strengthened by meeting with communities vulnerable to the impacts of climate change and specialist environmental organizations.

→ **Appoint a focal point for environmental matters.**
A focal point can be responsible for being informed on key environmental-related issues and possible actions to take, engaging with the EMB and others on environmental issues, commissioning research, managing internal communication on the subject, and making proposals for the observer leadership to consider.

→ **Take a life cycle approach to budgeting and undertake green procurement** (see section 3.1).

→ **Develop policies and take actions to minimize the environmental footprint of election observation while maintaining full functionality**
Example of potentially useful and effective policies and actions include avoiding single-use plastic; using recycled paper and materials; having waste management plans for paper and other materials; using local products rather than imported goods; having materials that can be reused (for example without a date printed for a specific election); using vegetable ink for printing; avoiding the most polluting vehicles and considering other forms of transport; minimizing unnecessary printed materials; having more plant-based catering at events; and hiring equipment rather than purchasing; and measuring and monitoring the carbon footprint of electoral events.

→ **Require organizations that receive donations of equipment after an observation mission to have an environmental policy.**
Equipment may be donated, particularly at the end of international election observation missions. Beneficiaries could be required to have an environmental policy and to have a demonstrated track record in taking environmentally friendly actions. These policies and actions could include, for example, provisions for the storage of materials (to avoid degradation), maintenance and end-of-life disposal.

→ **For international observer missions: deploy a portion of internationals already present in a country and/or from the region to reduce flight requirements.**
The carbon footprint of international observer missions could be reduced by having a proportion of observers being appropriately recruited and trained internationals who are already present in the country (for example in the resident diplomatic corps). Another way to avoid extensive air travel is to try to deploy internationals from neighbouring countries.

4.4 Development partners

There is increasing alignment of development partners' support with environmental imperatives. For example, the Organisation for Economic Co-operation and Development (OECD), which designs international standards and guidelines for development cooperation, refers to "addressing the climate crisis with systems-wide, transformative action".[132] The Network on Environment and Development Co-operation (Environet) of the OECD's Development Assistance Committee (DAC) aims to support members and other stakeholders in aligning development cooperation with environmental agreements.[133] There is also increased focus on multinational development banks, donors and philanthropic organizations recognizing the importance of integrating circular economy strategies.[134] Various sectors and organizations across the global development sphere have taken or are further prioritizing environmental positions to improve sustainability and also support those who are the most at risk.[135]

Development partners can help enable environmental actions as part of mainstream EMB support, while maintaining a focus on the need for integrity in elections and confidence in electoral processes and outcomes. For example, as a standard part of programming, development partners could promote consideration of the likely environmental impact of proposed actions. Development partners may also specify that their assistance should not be used for activities that result in pollution of the environment without justification (for example use of single-use plastics). EMBs may need additional resources to help manage the gathering and reporting of environmental information.

Development partners can also support EMBs by providing technical and financial assistance in implementing environmental mitigation and adaptation measures. For example, development partners could support the following:

- → Environment and election process reviews undertaken by EMBs, local partners and/or technical assistance providers. These reviews can serve as a baseline for future actions.
- → EMBs undertaking comprehensive consultations with key stakeholders.
- → Training for EMB leaderships and staff in environmental issues. This could also include the participation of representatives from selected stakeholders from civil society, political parties, the media and donors.
- → EMBs undertaking market research and moving towards a life cycle approach to budgeting and undertaking green procurement.
- → EMBs undertaking research and pilot-testing.
- → The additional costs involved in EMBs implementing environmental measures. This may include start-up costs of buying equipment or additional services for displaced populations.
- → EMB undertaking lessons learned processes, including reviews of the effectiveness of environmental-related actions taken.
- → Regional meetings for EMBs to learn together and share experiences. Such meetings could also be useful for coordinating approaches to international procurement.

Development partners can also support other electoral stakeholders in their environmental actions, which could also further help EMBs. The inclusion of environmental criteria in support of other electoral actors could enable a more consistent and coherent approach that will make it easier for EMBs to take environmentally friendly actions. One example of what development partners could do in this area is to support citizen observers, political parties and parliaments in undertaking research and consultation to develop electoral legislation in a context of changing environmental needs.

To promote responsible environmental actions in any activities they support, it can be helpful for development partners to consider prioritizing:

- → Alignment with international standards and good practice in regard to environmental matters and elections
- → Consultation, including with people most at risk of the impacts of climate change
- → Being data-driven when taking environmental action

- → Starting with pilot testing
- → Taking a learning approach, which relies on regularly reviewing how to improve
- → The provision of public information and reporting

Implementing such conditions in practice can often require donor support and funding in order to see positive outcomes and avoid over-stretching organizations' limited resources.

Development partners can also assist in promoting a regional and global community of practice in this evolving field. This may involve supporting coordinated actions by EMBs, commissioning research to benefit all EMBs, supporting the development of tools and information to the benefit of all EMBs, and supporting the sharing of expertise globally.

Such support is particularly important given the disparities involved in how environmental degradation and climate change are affecting communities and countries. Many lower-income countries face the greatest risks from climate change and yet are least able to mitigate or adapt to them—which is why the Paris Agreement refers to international support to developing countries for implementation. It has long been recognized that many countries lack the resources to reduce emissions and adapt to climate change. Wealthier nations with technological know-how have consistently been urged to increase their financial support for climate action in developing countries, with particular emphasis on reaching the poorest and most vulnerable.[136]

4.5 Suppliers

Suppliers have a crucial role in supporting EMBs with more environmentally beneficial alternatives. Suppliers could consider the following actions and approaches:

- → Voluntarily implementing environmental management systems and measures such as transition to renewable energy and fuel, measurement and reduction of carbon footprints, reduction of waste, and implementation of waste efficiency measures.
- → Aligning with internationally recognized standards on environmental measures so that any achievements and commitments can be easily understood. This could include, for example, leveraging frameworks such as the Science Based Targets initiative (SBTi), the Science Based Targets Network (SBTN),[137] the GHG protocol for carbon accounting,[138] International Organization for Standards (ISO) standards, etc. (see Annex 2).
- → Demonstrating progress in a transparent way, for example with information published on websites, including examples, progress metrics and initiatives taken.
- → Seeking transparency of supply chains down to the farm / mine / materials level. As new regulations develop, supply chain transparency will become a requirement in many regions and markets.
- → When engaging with buyers' procurement teams, suggesting alternatives that may have a lower environmental footprint. The buyer may not always know that these are available.
- → Looking for industry-level collaborations, especially around projects that may require resources beyond the ability of one company or institution.

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Annexes

Annexes

Annex 1. Country case studies

Canada in focus

Sustainable Development Strategy and Reporting

The Office of the Chief Electoral Officer (OCEO) of Canada has a 2023 – 2027 Departmental Sustainable Development Strategy.[139] The Strategy specifies that the OCEO "is committed to its strategic vision of upholding an electoral democracy that serves all Canadians and that Canadians trust, while being respectful of the environment and natural resources." It also states that the OCEO "envisions a future where Canada's electoral processes serve as models of sustainability, efficiency and inclusivity."

The Strategy followed the passing of the *Federal Sustainable Development Act* that is framed on the UN's sustainable development goals (SDGs).[140] The Strategy was developed based on a wide consultation process and focuses on 1) minimising environmental impact, 2) embracing sustainable and environmentally friendly technologies, and 3) making the electoral process as environmentally sustainable as possible.

For each related SDG, the Strategy specifies actions, performance indicators with a starting point and target. These include:

SDG 12 (responsible consumption and production): reduce waste and transition to zero-emission vehicles. This includes fleet transformation, including sustainability criteria in procurement, and green procurement training.

SDG 13 (take action on climate change and its impacts): reducing the use of printed electoral materials by 20%, engaging with transport authorities about the possibility of providing free access to public transport on election day, and reviewing regulatory policies to have a strong framework in place to address unforeseen climate and environmental circumstances. This involves the development of a methodology to calculate the carbon footprint associated with general elections.

The OCEO has committed to appoint a sustainable development champion to ensure the integration of sustainable development principles and practices into the agency's policies, projects and operational plans. The champion will also be responsible for overseeing and reporting on the goals and actions in the Department Sustainable Development Strategy.

Managing Extreme Weather Emergencies and Incidents

The *Canada Elections Act*, Canada's federal legal framework, has various measures in place for dealing with unforeseen situations that could disrupt polling. These include:[141]

1. Authority for the Chief Electoral Officer (CEO) of Elections Canada to **adapt provisions and exercise administrative discretion** over certain aspects of the election. These areas of discretion include adapting the number and boundaries of polling divisions (for example polling stations can be combined) and the re-assigning of election officials. This should only be done to enable electors to vote or for the counting of votes.

2. The CEO can **adapt or apply special voting rules** during an election period, in order to execute the intent of the special voting rules. These enable alternate voting options to citizens who can't or don't wish to vote at an advance or ordinary poll during an election. This includes voting by mail, voting in acute care facilities or from home if an elector qualifies for the service.

3. As a last resort the CEO can request the Governor in Council to **postpone or cancel an election in an electoral district.** This includes a specified time limit for when the election must be held.

In practice various approaches are followed to provide for effective and proportionate use of these legal provisions:

→ Mechanisms are **deployed progressively as needed and in proportion** to the gravity of the circumstances.

→ Adaptations are made **transparently.** The Advisory Committee of Political Parties is informed when an adaptation is made, and each adaptation is immediately published on Elections Canada's website, along with a detailed justification and explanation.[142] This information is also included in the CEO's reports to the Parliament of Canada.

Elections Canada is actively enhancing the resilience of its electoral operations to be better prepared for unexpected environmental challenges that might affect federal electoral events. Over the past 10 years, Elections Canada has addressed hurricanes, storms, tornadoes, post-tropical and winter storms, wildfires, and significant power outages. For example, during the general election in 2021, operations were impacted by Hurricane Larry in Newfoundland, and wildfires in Ontario, Manitoba, and British Columbia. Natural hazards have also affected provincial and territorial elections in Canada. In the Northwest Territories in mid-August 2023, wildfires resulted in the territorial election being postponed by six weeks due to safety concerns. To help facilitate voting, Elections Northwest Territories implemented several initiatives, including allowing electors to cast absentee ballots online, a "vote anywhere" initiative that allowed voters from smaller communities to cast advance ballots for their home district at regional centres, and extending the pre-election spending period.

Fiji in focus

Climate Context

Fiji has a high degree of vulnerability to climate changes including increasing temperatures, and more frequent and intense extreme weather events such as bushfires and floods, drought and excessive rainfall. Sea-level rise will have a range of impacts on Fiji's islands, with 27% of Fijians live within one kilometre of the coastlines.[143] The International Organisation for Migration (IOM) note: "Climate change, including sea level rise and more extreme weather events, is already having consequences for some urban centres, agriculture and coastal development in Fiji, which in turn is causing people and communities to migrate."[144] Relocations are occurring because of sudden-onset disasters (which are increasing in intensity as a result of climate change) or because of gradual and incremental slow-onset effects of climate change. Some moves are informal and others are planned relocations of entire communities.

The Constitution explicitly provides for the right to a clean and healthy environment, and protection of the natural world for the benefit of current and future generations.[145] Fiji has established a range of climate change adaptation and mitigation priorities and targets.[146]

Measures in Place Related to Elections

Given the increasingly challenging weather conditions and elections taking place during cyclone season, the Fijian Elections Office (FEO) identifies a reserve site for all polling stations (in another location / village).[147] This enables a faster response time to sudden changes in conditions (for example in the 2018 election voting had to be postponed for three days in 25 polling stations due to rains and flooding). Such changes then require rapid information and awareness raising so people know when and where to vote. The FEO liaises with the Fiji Disaster Management Office and undertakes media monitoring to disseminate updates on weather conditions, road and bridge closures, power outages, and water disruption alerts.[148]

Other contingency measures include voter registration being scheduled for six weeks, but with planning for eight in case of flooding or other such problems. Also having provisions for five days for "pre-polling" for voters in hard-to-reach communities, mobile registration services for home-confined persons, and postal voting.

The FEO has increasingly moved activities online and reduced paper consumption. All office paper waste is collected and shredded and then sent for recycling into hygiene products (such as toilet paper), which are then purchased by the FEO. This supports a circular use of materials. Ballot papers are printed by a local printer, where FSC certified paper is already utilised as well as vegetable inks, both of which are strong sustainability practices.

There is a free bus service for voters on election day. This has been an hourly service (adjusted for busier periods), has a dedicated call information centre, and is checked by a monitoring team.

Possible Additional Steps

The FEO has planned to gather stakeholder opinions through its regular post-election public perception survey. This could help the FEO to identify suitable further actions and justify additional steps it may take and resources needed.

The FEO has been advocating for an early disclosure of the election date to enable enhanced planning. Having a fixed election date period after the dissolution of parliament could enable more advanced planning and operational lead time, which could become increasingly important with changing weather conditions.

Other possible legislative measures could include incorporating environment-related provisions into electoral legislation, such as requirements for regular reporting. This could also help the election administration to justify additional finances, for example for high-quality warehousing for more reusable materials and to avoid degradation of materials due to changing weather. In keeping with Fiji's national climate commitments, requirements could also be introduced for political contenders to provide public information to enable comparative environmental impacts to be assessed. This could for example include requirements for parties to provide information on policies on minimising the environmental impact of their campaigns and reporting specific information related to environmental impact (as part of expenditure declarations of goods and services purchased).

Madagascar in focus

Climate Context

Madagascar is highly vulnerable to climate change due to its geographical location, poverty levels, and reliance on climate-sensitive sectors like agriculture. Temperatures have increased significantly across the islands; the dry season has become longer with the tropical storms becoming more intense. Rainfall patterns have changed, with increased levels in some areas and decrease in others. The overall water resources are under stress with increased frequency of droughts.

Cyclones are projected to become more intense but less frequent. Precipitation is likely to become more variable, with increased risk of both droughts and floods. The country has low adaptive capacity due to limited resources and infrastructure. There is community displacement for the period of cyclones sometimes to temporary sites with insufficient infrastructure.

Madagascar aims to absorb more greenhouse gases than it emits by 2030, largely through reforestation efforts. However, implementation of climate adaptation and mitigation measures face challenges due to the country's limited resources.[149] [150]

Measures in Place Related to Elections

UNDP has led an election project which initiated discussions with the Commission Électorale Nationale Indépendante (CENI) regarding materials management and waste.

Materials management and waste are currently areas of focus for the CENI. There is a large volume of used electoral paper (ballot papers and from multiple cycles of elections) that require storage and transporting from regional sites. Warehousing of the archive over a prolonged period of time has resulted in additional costs and is a fire risk. CENI has now consolidated the stored paper and has negotiated an arrangement with a local paper recycling company to recycle paper that is no longer legally required to be stored. The recycling company processes paper into hygiene products that can then be available to the CENI office, keeping the materials in circulation.

Part of the process involves shredding the sensitive papers before they can be recycled. With the help of experts through the Africa Election Fund, CENI has considered several options from purchasing a shredding machine to utilising a shredding service.[151]

Possible Additional Steps

The CENI office is at the initial stages of considering implementation more responsible materials management and disposal practices across the office. Currently the UNDP project is planning to equip the CENI with shredders, then to assist with the possibility of implementing a roadmap, including policies and capacity building on materials management and waste. Possible actions include more efficient use of office paper, elimination of single use items such as cups and superfluous packaging for stationery items, waste segregation, and the introduction of a staff awareness programme and monitoring to help create more awareness within the team.

In addition, there is an opportunity for closer collaboration with other government agencies around climate events monitoring and measures, disaster preparedness and notification systems as they may affect planning or delivery of the electoral activities.[152]

Philippines in focus

Climate Context

The Philippines is one of the countries most vulnerable to climate change globally. Its vulnerability stems from its geographical location, poverty levels, and reliance on climate-sensitive sectors like agriculture and fisheries.

Sea levels around the Philippines are rising at a rate 3 times faster than the global average (7-10 cm per decade). Sea levels are projected to rise 0.48 to 0.65 meters by 2100, with coastal areas facing significant risks from sea-level rise, threatening 60% of local government units. There have been changes in rainfall patterns and distribution, and the country is experiencing more frequent and intense extreme weather events, particularly typhoons. Average temperatures are projected to increase by 1.8 to 2.2°C and the frequency of days exceeding 35°C is expected to increase.[153] Public health is threatened by the increased spread of diseases like dengue and malaria. Labour productivity is expected to decline due to increased heat.

The Philippines is a signatory to the Paris Agreement. The country aims to reduce emissions by 75% by 2030, to increase renewable energy use, aiming for 35% of the power generation mix by 2030 and 50% by 2040. The government has also developed climate change adaptation and mitigation strategies.

Measures in Place Related to Elections

The Philippines Commission on Elections (COMELEC) has started embedding environmental considerations into its electoral processes. Acknowledging the environmental challenges that the Philippines is facing and their potential impact on electoral processes, COMELEC has assembled a special committee responsible for implementation of the environmental ambition. The Committee on Environmentally Sustainable Elections (CESE) is currently exploring a number of alternatives to the materials typically used in the election process that would have lower environmental impact. Examples include: removing single use plastic (especially items supported by single use ban legislation from 2022), minimising use of plastic materials and considering other alternatives to plastic items, introducing guidelines to encourage candidates and parties to use recycled or environmentally-friendly materials.[154] Candidates and parties are also required to include a message in their campaign materials that reads: “This material should be recycled or disposed of responsibly”. Another area currently being considered is opportunities to reduce printing and use of paper and instead leverage existing digital screens and monitors across the country.

Prior to some elections in 2023, the Climate Change Commission called on COMELEC to formulate a policy that would prohibit contestants from using plastic campaign materials and hazardous substances (including tarpaulins, handouts, flyers and small flags). For the 2023 elections, contestants had to dispose of campaign materials in a specified way that enabled reuse, repurposing and recycling under the guidance of various environmental groups. At the time of writing COMELEC is considering whether to introduce a total ban of such plastic use in campaigning for the upcoming elections. If not a ban, it is considering a reward system of some sort for candidates who use environmentally friendly materials.

Possible Additional Steps

The Philippines has recently passed a national procurement law that incorporates provisions for "green" procurement which provides a starting point for COMELEC to integrate aligned requirements in their procurement processes.

There may also be opportunities to consider more local businesses and local materials for use in the electoral processes such as those used traditionally, for example for promotional materials, merchandise for voter engagement as well as posters and banners used across the events.

South Africa in focus

Operating Context

The Electoral Commission of South Africa (IEC) is facing various emerging challenges related to environmental conditions.[155] These include:

1. More unpredictable and extreme weather making operations and logistics harder and more expensive, as well as more time consuming as more coordination and contingency planning is needed. For example, sturdier structures and tents are needed where previously a light gazebo was sufficient.
2. Heat is making it harder for staff to work (with implications for productivity and costs) and to conduct voter outreach. In some instances, voter engagement campaigns need to be scheduled around the hottest periods in the day.
3. Extreme heat and rain are also making it harder for voters to get to the polls, thereby reducing turnout. This is particularly pronounced where there are pre-existing infrastructure challenges which are being exacerbated.
4. The risk of flooding leading to displacement, with a disproportionate risk for poorer communities with inadequate infrastructure. All such risks require additional planning and have budgetary implications.
5. The environmental impact of the continued use of physical paper ballots with the concomitant depletion of trees to produce paper. There are two major paper producing entities in the country.
6. The country still has extensive coal endowments which remain the mainstay in the generation of electricity. The green transition is beset with challenges related to funding and the required new technologies.

South Africa has constitutionally entrenched environmental rights that help provide a basis for related actions by the IEC.[156] Some other state bodies are taking actions to measure carbon emissions and take mitigation steps (for example the five big cities each have climate plans)[157].

Measures in Place Related to Elections

The bulk of the materials used by the IEC are recyclable and environmentally friendly. The manufacturing processes aims at minimizing negative environmental impacts and promotes sustainability. The disposal of the election materials is done in a controlled and secure environment that is suitable for all types of materials including the ones that contains hazardous chemicals and components. Recycled paper based materials are repurposed, including creating of new products like cardboard, office paper and labels.

Additionally, since the municipal elections in 2016, the IEC introduced online candidate nomination. This online procedure operated alongside paper-based nominations. However, with subsequent elections there has been a discernible gravitation towards online nomination away from the paper-based system.
Furthermore, during the COVID-fraught election in 2021 the IEC introduced an online voter registration portal. This portal allows for citizens in possession of a national identity to register themselves online. Registered voters are able to change their registration details on the portal. Since inception 2.4 million transactions have been recorded on the portal. User analysis indicates that younger voters have a propensity to use the portal rather than older voter demographics.

Cumulatively, online electoral services reduce the need for paper as transactions are electronically recorded. Also, carbon emitting usage of vehicular transport to offices of the IEC and polling sites is obviated.

Additional Steps

The IEC has commissioned the Human Science Research Council (HSRC) to conduct research on environmental impacts of the election processes. The anticipated research report will underpin a framework for environmentally friendly elections. Possible future actions currently being considered include: training and awareness raising, environmental impact assessment and support with identifying opportunities for improvement, considering establishment of an environmental management oversight unit within the administration of the Commission, and preparing public environmental performance reporting for increased transparency and accountability. Also being considered is establishing links with others involved in environment-related work, the Ministry of Forestry, Fisheries and Environment, the Council for Scientific and Industrial Research and civil society.

Tuvalu in focus

Existential Climate Risks

Tuvalu is expected to be one of the first countries in the world to be completely lost to climate change. The government of Tuvalu note that "By 2050, it is estimated that half the land area of the capital will become flooded by tidal waters. By 2100, 95% of land will be flooded by routine high tides. Climate change also poses extreme risk to drinking water, food security, and energy supply." [158] Thus Tuvalu would essentially be uninhabitable.

Threats currently include increased prevalence of heat waves and chronically increasing temperatures, intensified cyclones and storms, saline intrusion, wave-driven flooding, coastal erosion, and permanent inundation due to rising sea levels.[159] Already ongoing flooding and coastal erosion are impacting services, access to facilities and provisions, and government resources. In 2015 Cyclone Pam displaced 45% of the population.

Climate adaptation and mitigation is a key priority for Tuvalu.[160] Tuvalu's Climate Change Resilience Act 2019 provides the legal basis for Tuvalu's transition to a climate resilient and lower carbon future.

Tuvalu has a population of approximately 10,600 people in-country according to the 2022 census. An increasing number of people are reportedly moving to the capital island, with some 60% of the population in-country currently living in Funafuti. Others are moving abroad, mostly to Fiji, New Zealand and Australia (with some citizenship and labour mobility schemes in place).

The Tuvaluan government is establishing itself as "the first digital nation".[161] It notes that "by recreating its land, archiving its culture, and digitising its government, Tuvalu can exist as a nation even after its land is no more. Our digital migration has begun."

Weather Disturbances to Previous Elections

The last general elections were held on 25 January 2024 with 6,260 registered voters and an extremely high turnout of 93%. However, the Prime Minister was not appointed until 26 February due to weather problems preventing boats travelling from the islands to the capital. Cyclone problems also meant that earlier some Tuvaluans had been unable to return from Fiji for voter registration due to runway damage as a result of storm surges. Previously in 2015 the elections were postponed due to a cyclone resulting in a state of emergency being called.

Current Considerations Related to Legal Provisions for Elections

At the time of writing Tuvalu is considering various changes to its electoral legislation.

→ Climate resilience measures for elections. This might include:

- Undertaking climate risk assessments.
- Reviewing election schedule timings to mitigate weather risks and enable more contingency planning.
- Possibly extending opportunities for voter registration and considering enabling registration from out of country. In particular, to facilitate participation for Tuvaluans who are temporarily abroad who may encounter difficulties returning and registering due to travel problems.

- Undertaking an inclusive and thorough process to consider the costs/risks and benefits of possible introduction of out-of-country voting (OCV) for those moving away from the islands.
- Mitigation measures related to the administration of elections. This might include requirements to reduce waste, ban single-use plastic (SUP) from the process, and enable administrative steps to be undertaken digitally.

Current Considerations Related to the Administration of Elections

At the time of writing Tuvalu is considering the following in regard to the administration of elections:

→ Including a climate change section in election reports to track and review climate impacts and effectiveness of measures taken.

→ Introducing an environment risk assessment process as part of each election cycle.

→ Increasing coordination with government entities covering climate change and waste management.

→ Developing provisions to address difficulties associated with increasing heat, such as provision of shade and water.

→ Undertaking measures to reduce the environmental impact of elections, including reducing waste. This could involve: replacing single-use items with goods that can be re-used, preferencing locally made items, and removing unnecessary packaging. For example, using re-usable tamper evident bags, wax seals, and re-usable covers to transport polling materials by sea. Fabrics could also be made from plants or recycled materials. The next elections could involve minimal plastics or be SUP-free.

→ Undertaking communication that promotes voter knowledge and understanding of changes.

Annex 2. Related resources

International assistance and resources

The International Foundation for Electoral Systems (IFES) has developed an Environmental and Climate Impact on Elections Toolkit with scorecard tools for EMBs. Two of the useful tools are the following:

→ **Reducing the Environmental Footprint of Elections (REFE) scorecard**. This is a self-assessment tool for EMBs with questions covering 10 categories, with answers scored. IFES encourages this scorecard to be completed with the counsel of an environment expert and for EMBs to use it annually to check progress.

→ **Addressing the Impact of Climate and Environment on Elections (ICEE)**. This is a self-diagnostic tool for EMBs that contains guiding questions with answers scored. It allows EMBs to assess preparedness and risk mitigation techniques for climate disasters and environmental displacement, identify challenges, and be better prepared to deal with the impact of climate disasters on elections.

UNDP has undertaken several pilot environment and election process reviews that look at possible mitigation measures, risks and resilience. These initiatives have involved field visits, meeting with different departments in election administrations and other electoral stakeholders more broadly, and then preparing reports with recommendations covering possible legal and administrative considerations and possible actions. These reports cover both environmental mitigation and adaptation issues to develop EMB resilience.

International organizations are sometimes asked to assist with procurement of electoral materials from international suppliers. The UNDP Office of Procurement has been undertaking research and analysis, including by engaging with suppliers, about ways to reduce the environmental costs of electoral materials. These efforts have found new, often cost-effective environmentally friendly alternatives becoming more potentially available and accessible, for example indelible ink without silver nitrate content.

These efforts also resulted in the inclusion of contractual requirements for secure disposal of hazardous materials and waste.

International IDEA has developed an online tool called Election Emergency and Crisis Monitor: Mapping Impact and Response to Disasters. This tool provides an overview of elections that have been affected by disasters on an ongoing basis and allows users to learn from and share various strategies that can be used to protect elections from adverse environmental effects.[162] At the time this guide was being prepared, the tool contained more than 60 country briefs spanning from 2001 to 2024.

Westminster Foundation for Democracy (WFD) in 2024 published 'Opportunities to reduce plastic pollution in elections: Policy brief for electoral management bodies and political parties'.[163]

More generally, the World Bank and the Development Assistance Committee (DAC) of the Organisation for Economic Co-operation and Development (OECD) jointly developed the Methodology for Assessing Procurement Systems (MAPS) in 2003. It has been used by development banks, bilateral development agencies and partner countries to assess their procurement systems.[164]

Carbon footprint calculators

Carbon emissions is one of the metrics of environmental impact, and carbon footprint measures can be helpful for identifying activities with the most greenhouse gas (GHG) emissions and assessing progress toward the global goal of reducing carbon emissions, in line with the Paris Agreement. Carbon footprint results are expressed in kg CO2e, or kg carbon equivalent.[165]

Benefits of carbon footprint calculators include:

- → A carbon footprint measure can help an EMB make informed decisions. It utilizes one metric (GHG emissions) that makes it easier to compare various activities and options, thereby helping an EMB to make and justify decisions. The results can help, for example, in deciding whether to purchase paper from a supplier in the same country or a supplier from another country that may be cheaper, but will need to be flown in.
- → Carbon measurement helps to show changes in impact over time—for example, if two separate election events have different carbon footprints. Analysis of such results would need to factor in if there have been changes in regulatory procedures and/or populations.
- → Carbon measurement can help an EMB communicate internally and externally on the progress it has made. A single measure is easier to communicate and set targets around and EMB staff can find it easier to understand and relate to.

Considerations for use of a carbon footprint calculator:

- → Carbon use and savings are important measures for consideration when designing or proposing environmentally friendly actions. However, discussions around these measures and any actions taken in response to them should always consider the need to maintain the integrity of elections and stakeholder confidence in electoral processes and outcomes.
- → It may be argued that it is more important to use limited EMB resources to take actions than to invest in measurement. If an EMB implements the recommendations set out in this guide, the overall carbon emissions of its activities are likely to reduce.
- → Carbon footprint measurement requires a significant amount of data collection that is not typically tracked by an EMB. Such information could include, for example, data on the kilowatt-hours (kWh) of energy consumed; distances travelled and the types of vehicles utilized; and volumes of materials purchased grouped by type, origin, recycled content and in some instances, manufacturing practices. Gathering this type of information requires data capture mechanisms that might take some additional financial and human resources to implement.
- → A best practice is to integrate data requirements and administrative effort at the planning and budgeting stage, and then engage suppliers so that they understand what data would be required from them to support carbon measurement.

- In order to measure a carbon footprint, an EMB needs to have access to the correct emission factors. Emission factor is a multiplier used to arrive at a carbon value per unit of activity, for example 0.233kg CO2e per kWh of electricity. There are a range of sources for these emissions factors; however, many of them are either too generic (not specific to the activities of an EMB) or are behind a paywall.
- Measuring and managing the carbon footprint process requires specialist knowledge and understanding of carbon drivers in order to meaningfully interpret results, and therefore external expertise may be needed.
- Some organizations select only a limited number of activities and categories to measure so start with, progressing to a full suite of activities over time. The scope of the measurement and calculation determines the results and how meaningful they are.[166] In an ideal scenario, an EMB would measure all of its activities' impact in order to have a full picture. But in reality, this may be a challenge due to limitations on data availability.
- There are several solutions on the market that can simplify the process of carbon measurement, but none of them are tailored to electoral administration needs.[167] Nonetheless, the existing tools can provide a useful starting point for EMBs.
- Relevant expertise can make the process of measurement and evaluation more efficient and effective. It is therefore recommended that EMBs conducting a carbon footprint exercise assign a dedicated person or team with appropriate environmental management knowledge and experience.
- Carbon footprint calculators are not suitable to be used as a green scorecard or comparison tool between countries. Complexities and variations in national context mean that comparisons in scores are not appropriate.

Environmental management standards and certification

International technical procurement standards include many environmental management standards that EMBs may find helpful when considering new or strengthened environmentally friendly actions. They cover the key aspects of environmental management and their principles can be applied across countries. However, full alignment with these standards and third-party verification typically increases prices. The International Organization for Standardization (ISO) provides standards, including on sustainable and ethical practices.[168]

Certification is also available against some of these standards, which fall into the following types:

- ISO type 1 identifies the environmental friendliness of a product, considering the entire product life cycle, and is authorized by a third party.
- ISO type 1-like focuses on a single issue such as energy consumption or sustainable forestry and is also authorized by a third party.
- ISO type 2 refers to voluntary claims by suppliers, without authorization.
- ISO type 3 provides quantified data (for example on energy or water consumption) enabling consumers to compare products, and are authorized by a third party.

Some relevant ISO standards within those four types include:

- ISO 24000 Sustainable procurement. The document can be helpful when considering how to implement sustainable procurement.[169]
- ISO 14001 Environmental management systems. The standard sets out best principles for managing environmental impacts and risks in operations[170]
- ISO 20121 Event sustainability management system. The standard provides a framework for designing an event with sustainability in mind.[171]
- IWA 42:2022 Net zero guidelines. The standard provides guidelines and key criteria for an organization that may be looking to align itself to Paris Agreement goals and work towards net zero.[172]

→ ISO 50001 Energy management. This standard provides guidelines on energy management practices that EMBs can implement in their operations and events development.[173]

→ ISO 14040:2006 Environmental management — — Life cycle assessment — Principles and framework; ISO 14044:2006 Environmental management — Life cycle assessment — Requirement and guidelines. These two standards guide the life cycle assessment of a product and are used by environmental professionals. For EMBs, references to these standards may be useful when specifying a carbon footprint or environmental footprint measure for a product. An ISO-aligned or ISO-compliant footprint may be requested; of those two, the compliant footprint is a more expensive and extensive exercise for a supplier, including because it involves peer review.

Sustainability-related certifications vary across countries and product categories. A comprehensive list of ecolabels can be found in the Ecolabel Index database.[174]At the time this guide was being prepared, the database had 456 ecolabels from 199 countries covering 25 industry sectors. Standards Map can also be used; at the time this guide was being prepared, there were 357 standards listed.[175]

Some of the most internationally popular and recognized certifications include the following:

- **Forest Stewardship Council (FSC).** [176] FSC provides paper and cellulose certification that confirms that the products are sourced from responsibly managed forests. This certification is recommended for all paper products as a minimum, unless recycled paper or cardboard is used. Recycled paper does not require an FSC certification. However, when the content is only partly recycled FSC can offer some assurance as well.

- **The Programme for Endorsement of Forest Certification (PEFC).** [177] PERC certification is similar to FSC, and is more frequently seen in North America.

- **Electronic Product Environmental Assessment Tool (EPEAT).**[178] This is a global rating system for greener electronics, enabling purchasers in participating countries to evaluate and compare electronics based on environmental attributes.

- **TCO Certified**.[179] This is an international sustainability certification for information technology (IT) products that includes criteria related to manufacturing, use and recycling of IT items.

- **Blue Angel.**[180] Each label specifies that the product or service focuses on one of four protection goals—health, climate, water and resources—to protect the environment and consumers.

- **Global Sustainable Tourism Council (GSTC) and Green Key.**[181] These are sustainability certifications for hotels.

- **Building Research Establishment Environmental Assessment Method (BREEAM).** [182] This is a widely recognized sustainability assessment and certification system for buildings and infrastructure projects.

Annex 3. Terms and definitions

Below are some explanations of various terms used in this guide. More information can also be found in UNDP's Climate Dictionary.[183]

Air pollution: The presence of harmful substances in the atmosphere, which can be in the form of gases, particulates, or biological molecules. Major sources include vehicle emissions, industrial discharges, and burning fossil fuels, all of which can have serious health and environmental impacts.

Biodiversity loss: The decline in the variety and variability of life on Earth, including the reduction of species, genetic diversity and ecosystem diversity. This loss can be caused by habitat destruction, pollution, climate change and overexploitation of resources.

Carbon emissions: The release of greenhouse gases into the atmosphere. These emissions are significant contributors to climate change, as they trap heat in the atmosphere, leading to global warming.

Climate change: A significant and lasting change in the Earth's climate, particularly due to human activities, primarily through the emission of greenhouse gases such as carbon dioxide and methane. Climate change results in global warming, sea-level rise, and extreme weather events.

Climate adaptation: The process of adjusting to actual or expected climate change and its effects. It involves making changes to systems, practices and structures to minimize harm and capitalize on beneficial opportunities arising from climate change.

Climate change mitigation: Efforts to reduce or prevent the emission of greenhouse gases and/or reduce their levels in the atmosphere. This can involve transitioning to renewable energy sources, enhancing energy efficiency and implementing sustainable land-use practices to limit the extent of climate change.

Deforestation: The large-scale removal of trees from forested areas, often leading to environmental degradation, loss of biodiversity and increased greenhouse gas emissions due to the reduction of carbon-absorbing forests.

Forever chemicals: A term often used to refer to per- and polyfluoroalkyl substances (PFAS), which are synthetic chemicals that do not break down in the environment. These chemicals can accumulate in human and animal tissues and are linked to various health problems.[184]

Green procurement: A subset of so-called sustainable procurement that integrates requirements, specifications and criteria to purchase products and services with a reduced environmental impact throughout their life cycle when compared to goods, services and works with the same primary function that would otherwise be procured.

Greenhouse gases (GHGs): Gases in the atmosphere that absorb and emit infrared radiation, trapping heat and warming the Earth's surface. This process is known as the greenhouse effect. Main greenhouse gases are water vapour (H2O), carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), ozone (O3). Other significant greenhouse gases include chlorofluorocarbons (CFCs), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulphur hexafluoride (SF6) and nitrogen trifluoride (NF3).

Human rights-based approach: A framework for development and environmental policies that emphasizes the importance of protecting and promoting human rights in relation to environmental and climate issues. It seeks to ensure participation, accountability and the right to a healthy environment for all people.

Just transition: A concept that emphasizes the need for fairness and equity when transitioning to a sustainable economy. It advocates for including workers, communities and disadvantaged groups in the process to ensure they are supported and can thrive in the new economic landscape, addressing issues of unemployment and environmental justice.

Microplastics: Plastic particles that measure less than 5 millimetres (0.2 inches) in length.[185] They are categorized into two main types: primary microplastics, which are intentionally manufactured at this size for use in products like cosmetics and synthetic textiles, and secondary microplastics, which result from the degradation of larger plastic items through environmental processes such as weathering, ultraviolet (UV) radiation and mechanical wear.

Nationally Determined Contributions (NDCs): Country-specific climate action plans that outline a nation's efforts to reduce greenhouse gas emissions and adapt to climate change impacts under the Paris Agreement.

Carbon offsetting: A method to compensate for carbon emissions by investing in projects that reduce emissions elsewhere, such as reforestation, renewable energy and energy efficiency initiatives. The idea is to balance out the emissions produced by an individual, company or country.

Planetary boundaries: A framework that defines the limits of human impact on Earth's systems, beyond which the environment may become unstable and unable to support human civilization as we know it. This concept was developed to identify a "safe operating space" for humanity within the Earth's biophysical systems.[186]

Renewable energy: Energy derived from natural sources that are replenished at a faster rate than they are consumed.[187] These sources are sustainable and have a lower environmental impact compared to fossil fuels. Types of renewable energy include:

- → **Solar energy:** captured from sunlight using solar panels or solar thermal systems. It can be used for electricity generation, heating and powering devices.
- → **Wind energy:** generated by harnessing the kinetic energy of wind through wind turbines, converting it into electricity.
- → **Hydropower:** produced by using the energy of flowing or falling water, typically through dams, to generate electricity.
- → **Biomass:** fuel derived from organic materials, such as plant and animal waste, which can be burned for heat or converted into biofuels for transportation.
- → **Geothermal energy:** extracted from the heat stored beneath the Earth's surface and used for electricity generation and direct heating applications.
- → **Ocean energy:** includes tidal and wave energy harnessed from the movement of water in oceans and seas.

Residual emissions: The greenhouse gas emissions that remain after efforts have been made to reduce or mitigate emissions through efficiency improvements, renewable energy sources or other measures. These emissions are often those that are difficult or impossible to eliminate entirely.

Sustainable development: The UN World Commission on Environment and Development defines this as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs."

Water stress: When the demand for water exceeds its availability.[188] This is often caused by factors such as over-extraction, pollution, population growth and climate change. Water stress can result in shortages that affect agricultural, industrial and individual water usage.

Zero waste: A term defined by the International Zero Waste Alliance as "the conservation of all resources by means of responsible production, consumption, reuse and recovery of products, packaging and materials without burning and with no discharges to land, water or air that threaten the environment or human health."

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