



Towards Green Public Administration: Goals and Principles

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Executive Summary

This research was commissioned by the Hungarian EUPAN Presidency, whose core priority is advancing the green transformation of public administration. During the previous expert-level working meeting, a workshop was conducted on this topic, where participants collaboratively identified the need for a framework to guide the implementation of green public administration (GPA) by fundamental principles and objectives.

The study aims mainly to establish a **checklist** (framework or code of conduct) that outlines **primary goals and guiding principles** for the shift toward sustainable administration. This helpful tool provides a comprehensive framework, a clear roadmap, and measurable criteria for evaluating green initiatives, enabling the simultaneous consideration of various aspects critical to green governance.



The research encompassed foundational theoretical exploration, defining the goals, principles, and characteristics of Green Public Administration. It provides an in-depth analysis of GPA's scope, examining its objectives and the underlying characteristics that ensure effective implementation. The central substantive part starts with identifying the key factors across green, ecological, and social dimensions by separating them for the goals and principles, detailing their essential components for achieving sustainable and

environmentally responsible public administration. Then, after a simplified clustering, four main goals and principles can be formulated. The study then analyses the relationships between these elements. A significant portion is dedicated to good and best practices in Europe, including efforts related to climate change, environmental protection, governance, and finance in sustainability. Noteworthy examples from Hungary and international cooperation are highlighted. Additionally, the text references related frameworks, including UN Sustainable Development Goals (SDGs), European Union European Administrative Space (ComPAct), and Technical Support Instrument (TSI) focusing on Pillar III: Capacity to lead the green transition; European Institute of Public Administration (EIPA) the European Public Sector Award (EPSA).

1. Introduction

Inspired by the UN Sustainable Development Goals (SDGs) and the European Commission's public administration development program, the ComPAct and the financing Technical Support Instrument (TSI from 2021, previously Structural Reform Support Programme until the end of 2020), and the European public administration country reports, this paper proposes and outlines in a form of **checklist** on the key goals and principles for Green Public Administration (GPA).

The concept of Green Public Administration is gaining significant traction globally. It represents a paradigm shift in governments' operations, moving beyond traditional bureaucratic structures towards a more environmentally conscious approach. This shift is driven by the urgency of addressing climate change, resource depletion, and environmental degradation. GPA establishes a framework for governments to integrate environmental considerations into all operations. It is not just about recycling paper in offices; it is a holistic approach that considers the green, sustainable, ecological, and other aspects.

Furthermore, this kind of checklist, framework, or code of conduct for Green Public Administration Goals and Principles starts and draws from the UN SDGs in a few key ways:

- **Focus on Global Challenges:** Both the SDGs and this checklist address critical issues facing humanity, such as the environmental challenges demanding a sustainable approach to governance.
- **Goal-Oriented Framework:** Both establish clear and achievable goals that provide direction and a framework for action.
- **Multi-Faceted Approach:** Similar to the SDGs with their 17 interconnected goals, this checklist incorporates various aspects of green administration, encompassing emissions reduction, resource conservation, public engagement, and climate resilience.
- **Actionable Principles:** Both provide underlying principles that guide the implementation of the goals. These principles often emphasize collaboration, transparency, accountability, and continuous improvement.
- **Flexibility and Adaptability:** The SDGs and this Green Public Administration checklist are designed to be adaptable to different contexts. Local governments can prioritize goals and principles based on their specific needs and resources.

The concept encompasses the following: policy development (formulating policies that consider environmental impact alongside economic and social goals); resource management (promoting sustainable practices in areas like energy use, water conservation, and waste reduction); procurement (prioritizing environmentally friendly products and services when purchasing goods for government operations); infrastructure development (investing in sustainable infrastructure projects like renewable energy sources and energy-efficient buildings); public awareness (educating citizens about environmental issues and promoting sustainable living practices.)

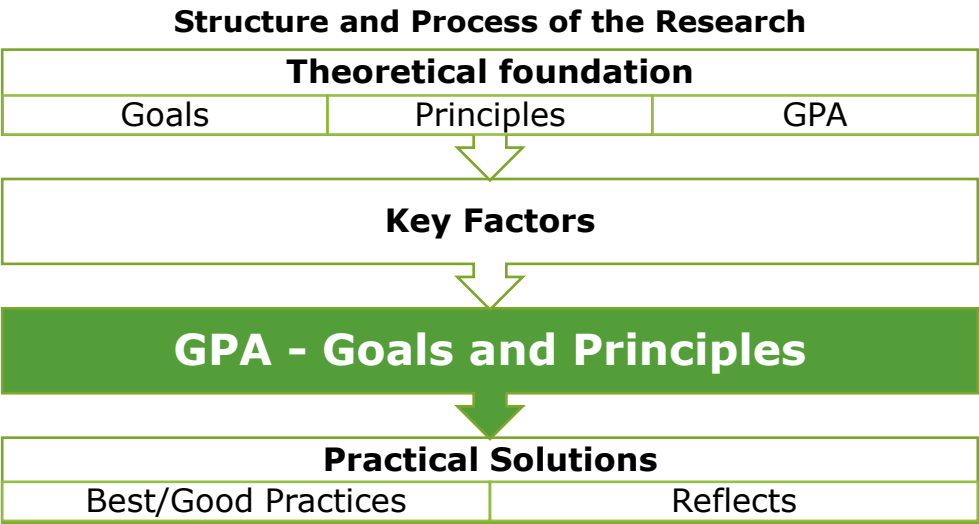
Among the preliminaries is important to highlight that the **EUPAN** organised a **working level meeting** in Budapest in October 2024. This breakout session aimed to gather good practices for greening public administration, aiming to establish guiding principles and a checklist for member states in the green transition. On the meeting, the participants introduced and shared some initiatives, for example, from Hungary (Csongrád-Csanád County Government Office, energy saving, waste collection, green procurement, animal welfare, and environmental awareness), the Netherlands (national agreements, social aspects, inclusive employment, green shift), Denmark (reduce climate impact, green procurement strategy, emissions reductions), Italy, Greece and other countries. The fruitful discussion ended with an agreement, which established three principle recommendations:

Leading by example	Ensuring that no one is left behind	Measuring and following the results
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Participants emphasised the importance of approaching the green transition positively and facilitating social dialogue. The challenge of balancing political influence, which often has a short-term focus, with administrative policy goals aimed at long-term greening efforts was also discussed. Most participants agreed that obligations stemming from EU membership, the Sustainable Development Goals (SDGs), and TSI (Technical Support Instrument) funding are valuable tools in this context.

Green Public Administration does not exist in a vacuum. International agreements and regional accords can provide a valuable framework and impetus for national and local governments. For example, the European Union actively promotes Green Public Administration through initiatives like the Green Public Procurement (GPP) and the EU Strategy on Adaptation to Climate Change. These accords set standards and guide member states to imple-

ment sustainable practices. Green Public Administration is a critical step towards a more sustainable future. Governments can effectively integrate environmental considerations into their operations and lead by example by developing minimum criteria, scoreboards, and a commitment to international accords. Governments can chart a course for a greener and more sustainable future by learning from countries with robust technical support instruments.



The **structure and process of the research** included the following steps. The **theoretical foundation** explores and examines the definitions, frameworks, purposes, importance, and distinguishing characteristics of the goals and principles. This groundwork includes an analysis of the Green Public Administration’s core concept. Then, as a second step, the **key factors** were identified based on three dimensions: green, ecological, and social attributes. These factors were selected and ordered generally, according to the goals or the principles of GPA. Finally, with a simplified clustering process, these factors were synthesized into **four primary goals**, and **four guiding principles**. Then, the research analysed the **correspondences** and interrelations between these goals and principles. To bridge theory with practice, it brings exemplary **good and best practices** for climate change and environmental protection; governance and finance in sustainability; international co-operation; and some initiatives from Hungary. Additionally, the study **reflects** on related frameworks and initiatives, including the UN Sustainable Development Goals, the EU/EC ComPAct and Technical Support Instrument

(TSI), the European Institute of Public Administration (EIPA) and the European Public Sector Award (EPSA), as well as country-specific reports on European public administration.

During the research, the concept takes into consideration the three recommendations that were previously mentioned. For (i) **leading by example**, a separate chapter deals with exemplary good and best practices. To (ii) **ensuring that no one is left behind**, the key factors and, therefore, the goals and principles contain the importance of inclusion, (social and intergenerational) equity, integration, and participation. In the broader sense, we also do not leave behind Nature (protect and restore biodiversity). Finally, (iii) measuring and following the results based on the scientific evidence-based policy, effectiveness and long-term perspective.

Methodology: Methods and relevant Chapters	
Method	Chapter
Literature Review and Theoretical Framework	Chapters 1–6
Conceptual Analysis of GPA and Its Key Factors (qualitative analysis and content analysis)	Chapters 2-3
Comparative Analysis of Goals and Principles of GPA	Chapter 4
Case Studies of GPA in the European Union and Member States	Chapter 5
Analysis of Global Sustainability Concepts and Approaches	Chapter 6
Synthesis and Recommendations	Chapter 4

According to our research plan and **methodology**, to establish a clear theoretical framework, the first phase of the research involves an extensive literature review to define the foundational terms like goals, principles, and Green Public Administration. This draws from academic papers, policy documents, and institutional reports. The second phase focuses on the conceptual outline by defining the key components, the key factors of the further goals, and the principles of GPA in terms of green, ecological, and social dimensions. It involves both qualitative analysis and content analysis. The comparative analysis aligns the goals and principles of GPA with existing governance structures in different contexts. Data is collected from EU governance frameworks, country-specific public administration reports, sustainability performance indicators, and previous meetings of the EUPAN working group. The correspondence between the goals and principles is critically analysed. The fourth phase thoroughly examines Green Public Administration

practices across EU member states. Case studies are used to highlight good and best practices and areas for improvement. A purposive sampling method is used to select EU member states that exhibit a range of approaches based on official government reports, EU publications, and interviews. The next phase explores how the GPA aligns with broader global frameworks such as the UN Sustainable Development Goals (SDGs) and other EU initiatives like the European Commission's Technical Support Instrument (TSI). Finally, the findings from the different phases are synthesized to form a coherent understanding of the goals and principles of GPA.

N.B. Specific goals and principles can be adapted based on local needs and contexts. Regularly review and update the Green Public Administration strategy to reflect current best practices and evolving environmental challenges. Overall, the methodology draws inspiration from the SDGs' successful structure to create a practical framework for Green Public Administration at the local level. This framework helps translate high-level idea(l)s into actionable outcomes.

2. General Aspects of Goals and Principles

As a foundation, the **theory of goals and principles** revolves around understanding the nature, function, and impact of these concepts in guiding actions, decisions, and behaviours in various contexts, such as personal development, organizations, and society as a whole. Goals and principles operate in tandem, complementing each other to align actions with desired outcomes and values.

Goals vs. Principles

Aspect	Goals	Principles
Definition	Specific outcomes or achievements to be accomplished in green and sustainable public administration.	Fundamental beliefs or guidelines for behaviour and decision-making in the context of sustainability.
Purpose	Provide a clear target or endpoint for sustainability efforts. (What to Do)	Guide the approach and methods for achieving sustainable goals. (How to Do)
Timeframe	Often time-bound and specific, such as multi-year plans.	Typically, enduring and timeless, providing ongoing guidance.
Measurement	Quantifiable and measurable, such as emission reductions.	Qualitative and often harder to measure, such as integrity and inclusiveness.
Flexibility	May change with circumstances and achievements, such as updated targets.	Usually remain constant, providing a consistent ethical framework.
Focus	Outcome-oriented, focusing on specific sustainability results.	Process-oriented, focusing on ethical and effective methods.
Motivation	Drives action towards specific sustainable outcomes.	Ensures actions align with core sustainability values and ethics.
Adaptability	Can be adjusted based on progress and feedback, such as revising goals.	Provides stable guidelines irrespective of changing goals.
Impact on Behavior	Directs actions towards achieving specific sustainability results.	Influences behavior and decision-making towards ethical sustainability.
Examples in Green and Sustainable Public Administration	- Implement a city-wide recycling program by 2022. - Transition all public transportation to electric vehicles by 2030.	- Foster community involvement and education on recycling practices.

	- Establish green procurement policies to source only eco-friendly products. - Reduce carbon emissions of public buildings by 30% in 5 years. - Increase green spaces in urban areas by 20% by 2025. - Achieve zero waste in public offices by 2030.	- Prioritize long-term environmental benefits over short-term costs. - Encourage innovation and collaboration in developing sustainable solutions. - Promote transparency and accountability in environmental reporting. - Ensure public participation in sustainability planning and decision-making. - Prioritize renewable energy sources and sustainable practices.
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The **goal** is the end toward which effort is directed.¹ Individuals or organizations aim to achieve a specific, measurable outcome, giving direction and motivation within a particular timeframe. Several **theoretical frameworks** have emerged to explain how goals work. The goal-setting theory is one of the most prominent, where the fundamental tenets include clarity, challenge (and achievable), commitment, feedback, and task complexity.² The expectancy theory suggests that individuals are motivated to pursue goals when they expect their efforts to lead to desired outcomes.³ It emphasizes three factors: expectancy, instrumentality, and value (or valence). The self-determination theory (SDT) deals with, on the one hand, the intrinsic goals, driven by personal satisfaction or internal rewards (e.g., personal growth, learning); and on the other hand, the extrinsic goals, driven by external rewards such as money, status, or recognition.⁴

¹ “Goal.” Merriam-Webster.com Dictionary, Merriam-Webster, <https://www.merriam-webster.com/dictionary/goal>. Accessed 14 Oct. 2024.

Etymology: middle English *gol* boundary, limit

² Locke, E. A., & Latham, G. P. (2019). The development of goal setting theory: A half century retrospective. *Motivation Science*, 5(2), 93. ; Locke, E. A., & Latham, G. P. (2013). Goal setting theory: The current state. In *New developments in goal setting and task performance* (pp. 623-630). Routledge.

³ Vroom, V., Porter, L., & Lawler, E. (2015). Expectancy theories. In *Organizational Behavior 1* (pp. 94-113). Routledge. ; Min, H., Tan, P. X., Kamioka, E., & Sharif, K. Y. (2020). Enhancement of study motivation model by introducing expectancy theory. *International Journal of Learning and Teaching*, 6(1), 28-32.

⁴ Ryan, R. M., & Deci, E. L. (2024). Self-determination theory. In *Encyclopedia of quality of life and well-being research* (pp. 6229-6235). Cham: Springer International Publishing. ; Deci, E. L., & Ryan, R. M. (2012). Self-determination theory. *Handbook of theories of social psychology*, 1(20), 416-436. ; Ryan, R. M., & Vansteenkiste, M. (2023). Self-determination

The **purpose** of setting goals is to provide clarity, direction, and motivation. They help achieve personal aspirations or organizational objectives by breaking them down into actionable steps. There are different **types** of goals. In a timeframe, short-term goals are immediate and achievable in a brief period, while long-term goals require extended time and planning. Personal goals focus on individual well-being or personal growth, whereas professional goals relate to career success, skill development, or workplace achievements. SMART Goals (Specific, Measurable, Achievable, Relevant, Time-bound or Strategic, Measurable, Attainable, Results-oriented, Time-bound) a widely adopted framework to ensure goals are clear and attainable.⁵

By the **importance**, goals provide clarity (direction and focus) on what to aim for, helping prioritize tasks and efforts. Beyond that, they can motivate individuals or teams to take action and maintain momentum. Well-defined goals allow tracking progress and holding oneself or others accountable for achieving results. Key performance indicators (KPIs), milestones, and metrics are used to **measure** progress. For example, a public goal might be measured by revenue for the state or citizen satisfaction. The effective goals bear four **characteristics**:

- Clarity: the more precise a goal is, the easier it is to plan and achieve it.
- Realistic and attainable: goals should stretch abilities but still be within reach.
- Aligned with values: goals should reflect core values, making their achievement meaningful.
- Adaptability: goals may need to be revised based on changing circumstances or insights.

The **principle** can be defined as a comprehensive and fundamental law, doctrine, proposition, or assumption, a rule or code of conduct, or habitual devotion to right principles.⁶ So principles are foundational truths or propositions that guide a belief, behaviour, reasoning, thinking, and decision-making

theory. In *The Oxford Handbook of Self-Determination Theory* (pp. 3-30). Oxford University Press. ; Vallerand, R. J. (2021). Reflections on the legacy of self-determination theory. *Motivation Science*, 7(2), 115.

⁵ O'Neill, J. (2000). SMART goals, SMART schools. *Educational Leadership*, 57(5), 46-50. ; Latham, G. (2020). Goal setting: A five-step approach to behavior change. In *Organizational collaboration* (pp. 10-20). Routledge.

⁶ "Principle." Merriam-Webster.com Dictionary, Merriam-Webster, <https://www.merriam-webster.com/dictionary/principle>. Accessed 14 Oct. 2024.

Etymology: middle French *principe*, *principle*, from old French, from Latin *principium* beginning, from *princip-*, *princeps* initiator

system. They represent overarching beliefs or ethics that remain consistent over time. The **theory** behind principles emphasizes their role as the foundation of consistent, value-driven decision-making. Normative ethics studies principles of right and wrong and guides moral behaviour, like virtue ethics,⁷ and deontological ethics: principles are non-negotiable, regardless of the outcome;⁸ or consequentialism (utilitarianism):⁹ the morality of an action is determined by its outcomes.¹⁰ The values-based leadership theory suggests that leaders should be driven by core values and principles, ensuring that their decisions align with these values.¹¹ The psychological cognitive dissonance theory explains when individuals act in ways that contradict their principles, they experience cognitive dissonance, which leads to discomfort.¹² To resolve this, people either change their behaviour or adjust their principles.

The **purpose** of principles is that they serve as a moral or operational compass. They define the standards by which actions should be taken and help maintain consistency in behaviour and decision-making. Within the

⁷ Aristotle: *Nicomachean Ethics* and *Eudemean Ethics*. 2012, *Aristotle's Nicomachean Ethics*, Robert C. Bartlett, and Susan D. Collins (eds/trans.), Chicago: The University of Chicago Press. 2013, *Eudemean Ethics*, (Cambridge Texts in the History of Philosophy), Brad Inwood and Raphael Woolf (eds./trans.), Cambridge: Cambridge University Press.

Van Steden, R. (2020). Blind spots in public ethics and integrity research: What public administration scholars can learn from Aristotle. *Public Integrity*, 22(3), 236-244.

⁸ Kant, I. (1785). *Groundwork of the Metaphysic of Morals*, H.J. Paton (trans.), New York: Harper and Row, 1964. ; Kant I. (1780, *The Metaphysical Elements of Justice: Part I of the Metaphysics of Morals*, J. Ladd (trans.), Indianapolis: Hackett Pub. Co. 1965-

⁹ Bentham, J. (1781). *An introduction to the principles of morals and legislation*. History of Economic Thought Books. ; Bentham, J. (1776). *A Fragment on Government: Being an Examination of what is Delivered, on the Subject of Government in General, in the Introduction to Sir William Blackstone's Commentaries: with a Preface, in which is Given a Critique on the Work at Large* (No. 2). T. Payne... P. Elmsly... and E. Brooke. Scarre, G. (2020). *Utilitarianism*. Routledge.

¹⁰ for further analysis for these ethics see Vértessy, L. (2024). Financial Perspectives of Economic History-Volume I: Economic History as a Science, Fundamentals of Economics, Economic Theories, Economic Ethics, Money, Cycles and Crises. Institute for Economic Analysis - GEI Press

¹¹ Copeland, M. K. (2014). The emerging significance of values based leadership: A literature review. *International journal of leadership studies*, 8(2), 105. ; Abay, S. T., Gomes, J. F., & Mengistu, A. B. (2023). A comparative analysis of values-based leadership theories: a review and future research agenda. *The Journal of Values-Based Leadership*, 16(2), 14.

¹² Festinger, L. (1957). *A theory of cognitive dissonance*. Stanford University Press. ; Yahya, A. H., & Sukmayadi, V. (2020). A review of cognitive dissonance theory and its relevance to current social issues. *MIMBAR: Jurnal Sosial Dan Pembangunan*, 36(2), 480-488. ; Miller, M. K., Clark, J. D., & Jehle, A. (2015). Cognitive dissonance theory (Festinger). *The Blackwell Encyclopedia of Sociology*, edited by George Ritzer, Wiley Online Library. <https://doi.org/10.1002/9781405165518.wbeosc058.pub2>.

types, we can distinguish the following. Ethical Principles are guidelines based on morals and values (e.g., fairness, responsibility, respect); operational principles specify how an organization or system functions (e.g., efficiency, sustainability, transparency). Scientific or logical principles establish laws or reasoning processes in fields such as mathematics, physics, or logic (e.g., cause and effect, consistency). According to their function – using the Kantian dichotomy¹³ – principles can be, on the one hand, descriptive, "*sein*"-type statements in response to what characterises a given discipline and, on the other hand, prescriptive, "*sollen*" provisions, about what the science should be.¹⁴

Their **importance** is shown as they serve as the baseline for ethical and consistent decision-making, ensuring integrity. As behavioural guidance, they influence actions by defining what is acceptable or unacceptable. Principles often form the core values of an organization or society, shaping its cultural and organizational identity. The adherence to principles is often **measured** qualitatively. For example, maintaining ethical behaviour may not have a numeric value but can be recognized through consistent decisions and actions that reflect integrity. Among the key **characteristics**, we can find that they are

- Universal or Contextual: some principles are universal (e.g., honesty, integrity), while others might be specific to a culture, organization, or field (e.g., transparency in governance);
- Non-negotiable: unlike goals, principles are typically non-negotiable and serve as guiding truths that dictate how goals are pursued;
- Long-lasting: while goals may evolve, principles remain steady over time.

Regarding the **relationship** between goals and principles, it can be said that they have a complementary nature. Goals define *what* you want to achieve, while principles guide *how* you achieve them. For example, a company's goal may be profitability, but principles such as sustainability or fairness dictate how they pursue that goal. Based on ethical alignment, principles ensure that pursuing goals aligns with moral, ethical, or professional standards. While goals may need to be adjusted based on new information or changing

¹³ Kant, I. (1781). *Critique of Pure Reason*. Project Gutenberg (<https://www.gutenberg.org/files/4280/4280-h/4280-h.htm>)

¹⁴ Vértessy, L. (2020). *Principles of public administration. Rule of law and efficiency. A közigazgatás alapelvei. Jogállapot és hatékonyság. A jogállami közigazgatás*. In: Szalai, A. ed. *A közigazgatás-tudománya és gyakorlata*. Budapest. HVGOrac.

circumstances, principles tend to be more stable. However, principles can evolve to reflect changes in values or societal norms. In other words, while goals may change, adhering to strong principles helps ensure that pursuing goals is sustainable in the long-term and does not compromise ethical standards. Both goals and principles play an essential role in shaping individual, organizational, or societal success, ensuring purpose-driven actions within a framework of integrity and ethical consideration. The following table outlines the key differences and relationships between goals and principles, showing how they complement each other in guiding actions and behaviour. It also illustrates how specific goals in green and sustainable public administration can be complemented and guided by underlying principles, ensuring that efforts are both effective and ethically grounded.

There are **two main approaches**, styles, or types of goals and principles: compliance-based and value-based.

Compliance-Based vs. Value-Based Goals and Principles	
Compliance-Based Goals and Principles	Value-Based Goals and Principles
• not only set guidelines for conduct but • also determine penalties for violations	• addresses an organization's core value system • may require a greater degree of self-regulation than compliance-based codes

Compliance-based goals and principles are crucial in setting clear organizational conduct guidelines.¹⁵ These guidelines are designed to ensure that all actions and behaviors align with established standards and regulations. In addition to providing a framework for acceptable conduct, compliance-based principles also determine penalties for violations. This dual approach promotes adherence to rules and acts as a deterrent against misconduct by clearly outlining the consequences of non-compliance.

In contrast, **value-based goals and principles** delve deeper into the organization's core value system.¹⁶ They emphasize the importance of internalizing and embodying the organization's fundamental values in everyday

¹⁵ Lartey, F. M. (2021). Integrity-based and Compliance-based Ethics Programs: A Critical Analysis of key differences. *International Journal of Economics, Business and Management Research*, 5(5), 43-53.

¹⁶ De Martino, B., & Cortese, A. (2023). Goals, usefulness and abstraction in value-based choice. *Trends in Cognitive Sciences*, 27(1), 65-80.

activities. Unlike compliance-based codes, which are primarily externally enforced, value-based principles often require greater self-regulation. Employees and stakeholders are encouraged to align their actions with the organization's values, fostering a culture of integrity and ethical behavior. This intrinsic motivation to uphold values can be more effective in driving long-term commitment and ethical conduct, as it relies on personal accountability and a shared sense of purpose within the organization.

Responsibility, legal liability, and compliance are crucial components for the prevalence and implementation of goals and principles.

Ethical Responsibility vs. Legal Liability/Compliance

Ethical Responsibility	Legal Liability / Compliance
Choice to comply with the code of ethics of the particular organization, company, etc.	Acting in accordance with the laws of a particular organization, company, etc.
Reactive	Proactive
Involves doing what is right , sometimes even regardless of the law.	Involves following the law .

The **ethical responsibility** in green and sustainable public administration revolves around the choice to comply with the code of ethics established by a particular organization, public agency, or company.¹⁷ This form of responsibility is almost always retrospective in nature; that is, one acts correctly, even if such action goes beyond the legal requirement when a situation arises that demands so. Responsibility is defined in terms of ethics as the obligation to promote environment and sustainability values, even when it may sometimes entail taking activist stances that contravene legal requirements. For example, a public administrator, in this case, may choose to adopt more efficient controls on pollution than economically required because the organization believes in and stands for the public's welfare.

On the contrary, **legal liability** and compliance in green and sustainable public administration are concerned with how actions are taken with the laws and regulations imposed by the governing bodies.¹⁸ This ensures that all acts and all decisions taken are within the law. Compliance in action

¹⁷ Anshari, M., Syafrudin, M., Fitriyani, N. L., & Razzaq, A. (2022). Ethical responsibility and sustainability (ERS) development in a metaverse business model. *Sustainability*, 14(23), 15805.

¹⁸ Van Rooij, B. (2020). Do people know the law? Empirical evidence about legal knowledge and its implications for compliance. *Van Rooij, B. 'Do people know the law*.

means following prescribed laws in order to avoid bearing the legal consequences of any violations. In most cases, it is a set of clear expectations related to a compliance requirement on the part of the organization. For instance, some of the requirements that the city government might put in place might include building energy efficiency standards that suit our regulations. Compliance with these laws ensures that the city reduces its environmental footprint and avoids legal sanctions.

The **balancing of ethical responsibility and legal liability/compliance** is crucial in the context of GPA. While legal compliance ensures that basic standards are met and provides a framework for action, ethical responsibility can drive organizations to exceed these standards and adopt more innovative and ambitious sustainability practices. These approaches help create a more comprehensive and effective strategy for achieving sustainability goals. The academic constructs, typically of a political nature, summarises the essence of societal expectations of public administration, with specific definitions of the principles of organisation and operation of public administration and of sectoral and legal principles.

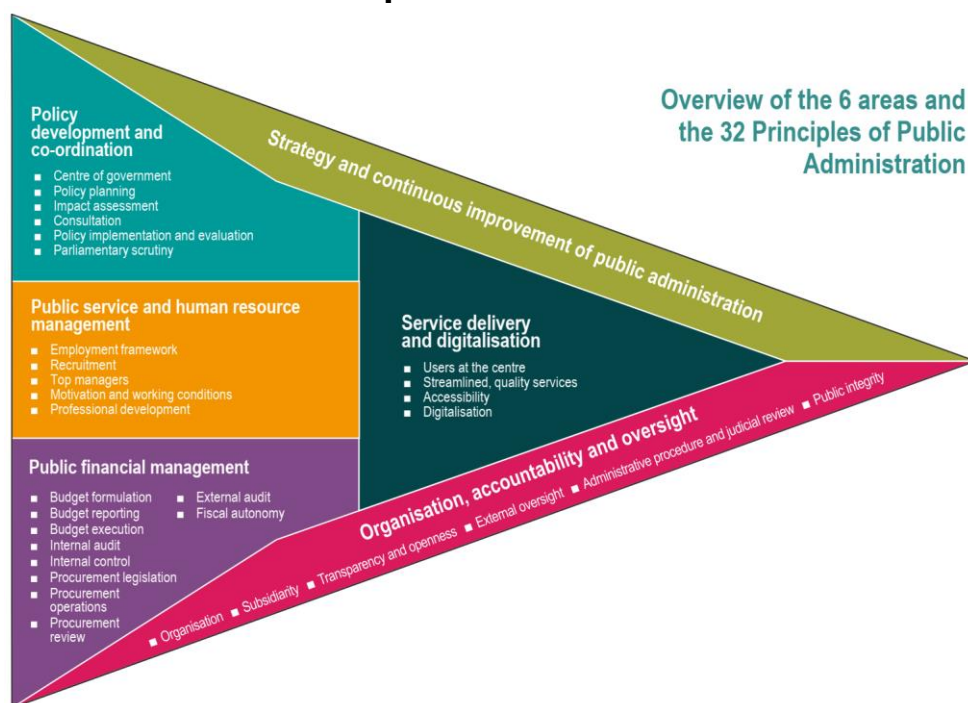
Finally, while the academic literature has no consensus on **public administration's primary goals and principles**, international organisations like the Organisation for Economic Cooperation and Development (OECD) or the Council of Europe recently formulated detailed frameworks. These concepts are only indirectly related to GPA.

The 2023 edition of the **Principles of Public Administration** from the OECD SIGMA (Support for Improvement in Governance and Management) still continues the six areas with 32 principles.¹⁹ The 32 Principles outline values, behaviours and outcomes, while the 270 sub-principles provide more detailed guidance on achieving these results and ensuring adequate administrative capacity. For **Strategy**, the government ensures a strategic vision and leadership for an agile, innovative, and continuously improving public administration responsive to new challenges. Within the **Policy development and co-ordination**, the government ensures that policies and budgets are harmonised, effectively planned, coordinated across the whole of government, implemented, monitored, and evaluated against clearly defined policy objectives. Ministries develop coherent public policies through an open and participatory process informed by sound evidence and analysis. In the

¹⁹ OECD (2023). The Principles of Public Administration. <https://www.sigmaweb.org/publications/Principles-of-Public-Administration-2023.pdf>

topic of **Public service and human resource management**, public servants act with professionalism, integrity and neutrality. They are recruited and promoted based on merit and equal opportunities and have the right competencies to deliver their tasks effectively. For the **Organisation, accountability and oversight**, the organisation of the public administration is efficient and effective across all levels of government. Public administration bodies are open and transparent and apply clearly defined internal and external accountability mechanisms. Strong oversight bodies protect the rights of citizens and the public interest. The fifth area deals with **Service delivery and digitalisation**, where the public administration places users at the centre and delivers high-quality and easily accessible services online and offline to all people and businesses. Digitalisation enables data-driven decisions, effective and efficient processes, as well as high-quality and accessible services. Finally comes the **Public financial management**. The public administration plans and manages public finances to ensure that they are sustainable and transparent and allow the delivery of policy objectives. Control, procurement, and oversight arrangements are in place to ensure the economical, efficient, and effective use of public resources shared across all levels of government.

OECD: 32 Principles of Public Administration



OECD (2023). The Principles of Public Administration

The **Council of Europe** set twelve Principles of Good Governance at a local level in 2008, which are fundamental values that define a common vision of European democratic governance. These are the following: 1. Participation, Representation, Fair Conduct of Elections; 2. Responsiveness; 3. Efficiency and Effectiveness; 4. Openness and Transparency; 5. Rule of Law; 6. Ethical Conduct; 7. Competence and Capacity; 8. Innovation and Openness to Change; 9. Sustainability and Long-Term Orientation; 10. Sound Financial Management; 11. Human Rights, Cultural Diversity and Social Cohesion; 12. Accountability.²⁰ The Steering Committee on Democracy (CDDM) developed these values at the government level and adopted the **Reykjavik Principles for Democracy** in 2023.²¹ In the Appendix III of the **Reykjavik Declaration**, we can find 1. democratic participation; 2. elections and referenda (with the freedom of expression, freedom of assembly, and freedom of association); 3. independent and effective parliaments and other democratic institutions (high ethical standards); 4. separation of powers; 5. independent, impartial and effective judiciaries; 6. fight against corruption; 7. freedom of expression, opinions; 8. democratic future; 9. civil society; 10. full, equal, and meaningful participation in political and public life.²²

Further, like the UN Sustainable Development Goals (SDGs), Green Public Administration can be **measured and tracked** by developing minimum criteria and scoreboards. **Minimum criteria** could establish a baseline for environmental performance in areas like:

- Greenhouse gas emissions reduction targets for government buildings.
- Percentage of renewable energy used in government operations.
- Sustainable procurement policies in place.
- Public education programs on environmental awareness.

²⁰ For more information, see the website: <https://www.coe.int/en/web/good-governance/12-principles-and-elope>

²¹ Buyse, A. (2023) The Reykjavik Summit and Declaration, ECHR Blog. May 17.
Soyaltin Colella, D. (2024). Council of Europe and the Reykjavik Principles for Democracy" Are they enough?". *Revue des droits et libertés fondamentaux*. ; Donald, A., & Leach, P. (2023). Responding to seismic change in Europe-The road to Reykjavik and beyond. *European Human Rights Law Review*, *Forthcoming*.

²² Reykjavik Principles for Democracy, Appendix III of the Reykjavik Declaration.
<https://www.coe.int/en/web/steering-committee-on-democracy/10-principles-for-democracy>

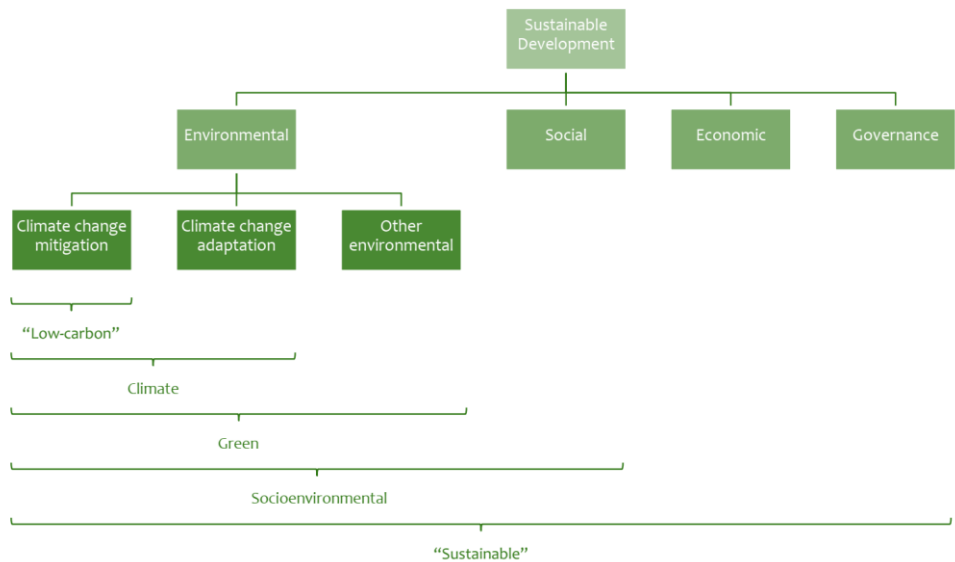
- Scoreboards would then track progress toward these criteria. Metrics could include:
- Annual reductions in greenhouse gas emissions.
- Increase in renewable energy use.
- Percentage of public procurement budgets dedicated to sustainable goods and services.
- Number of citizens reached through public awareness campaigns.

3. Concept and Key Factors of GPA

After defining the goals and principles, it is also necessary to summarize and explain the concept and key factors of the GPA, focusing on how the state and other public institutions can coordinate governance with sustainability goals. The chapter begins with an overview of green and green public administration, outlining its purpose and significance in modern governance. Next, the key factors that align with the goals and principles of the GPA will be identified, highlighting the aspects that achieve environmental, social and economic sustainability in all areas of public administration.

But before we start with the concept of GPA and its factors, it is worth defining some **key terminologies** such as sustainable, social environment, green, climate, low-carbon; and environmental, social, economic and governance issues. This hierarchy focuses on activities with low carbon dioxide emissions from the broad concept of sustainability. The figure shows that sustainable development is a holistic concept that requires a balanced approach to address environmental, social, economic, and governance aspects.

Simplified Schema for the Key Terms



European Commission, Directorate-General For Environment (2017). Defining "green" in the context of green finance. 2. and UNEP Inquiry (2016). Definitions and Concepts - Background Note.

The **sustainability** is the adherence to or conception of practices or systems which enhance current supply requirements without posing any threat to the demand in the future. This does not relate only to the environmental aspects alone but also to others; hence, this is the most encompassing term that incorporates branches such as the environment, social justice issues, economic activity, and responsible governance. The **socioenvironmental** concept attempts to define a concept that includes environmental loss, social concerns, the suffering that such a loss inflicts, and the attempts to reverse it inflicts on social systems.²³ In a sense, this is almost restoration, a narrower definition than “sustainable,” if you will, inasmuch as there are burning issues, particularly the aspects of society (social equity, social capital, and social societies) in socio-nature entangled. Anything that will be referred to as **green**, as it has broadly come to mean, embraces all natural friendly practices and has the least or no disturbance to nature. It refers to products and services that use clean energy and cycle the consumption of such through sustainable resources while preserving the environment. (Should be careful to avoid greening from greenwashing.²⁴) More particular to the scope of an environment, more especially concerned with practices or services that have less or no environmental impacts not just on a global level, but even for the state,²⁵ firms, and locally the households.²⁶ The **climate** is the average weather condition over a long period, and its variations also include changing trends in the climatic condition of the earth due to development activities like the emission of greenhouse gases. This is then related to the climate system and concerns seeking measures to alleviate climate change and its effects on the earth. The **climate change mitigation** is a set of measures designed to decrease greenhouse gas emissions and, therefore, avert global warming with the following strategies: (i) Conventional mitigation technologies: renewable energy, nuclear power, carbon capture, storage and utilization, fuel switch and efficiency gains; (ii) Negative emissions tech-

²³ Goldstein, J. E., Neimark, B., Garvey, B., & Phelps, J. (2023). Unlocking “lock-in” and path dependency: A review across disciplines and socio-environmental contexts. *World Development*, 161, 106116.

²⁴ Vértessy, L. (2023). *A green és a zöld jelző: greening, greenwashing...* Körforgásos Gazdaság Műhelytanulmányok. Magyar Agrár- és Élettudományi Egyetem, MATE Press.

²⁵ Dryzek, J. S., Downes, D., Hunold, C., Schlosberg, D., & Hernes, H. K. (2020). Ecological modernization, risk society, and the green state. In *The ecological modernisation reader* (pp. 226-253). Routledge.

²⁶ Vértessy, L. (2021). Household green finance survey - *Lakossági zöldpénzügyi felmérés: elsődleges eredmények*. Budapesti Műszaki és Gazdaságtudományi Egyetem, Magyar Nemzeti Bank.

nologies: bioenergy carbon capture and storage, afforestation and reforestation, biochar, soil carbon sequestration, direct air carbon capture and storage, ocean fertilization, enhanced terrestrial weathering, ocean alkalinity enhancement, wetland restoration and construction, alternative negative emissions utilization and storage techniques; (iii) Radiative forcing geoengineering technologies: stratospheric aerosol injection, marine sky brightening, space-based mirrors, surface-based brightening, cirrus cloud thinning, miscellaneous radiation management techniques.²⁷ While the **climate change adaptation** is a set of measures designed to deal with impacts of climate change, such as – for example in the agriculture – (i) Agronomic adaptation strategies: diversification, water management, soil conservation, nutrient management; (ii) Genetic adaptation strategies: breeding for stress tolerance, genetic engineering, trait stacking; (iii) Technological adaptation strategies: precision agriculture, climate information services, remote sensing and monitoring, biotechnology and bioinformatics.²⁸ Last but not least, the **low carbon** presents any activity, process, or technology that yields less CO₂ compared to the traditional options.²⁹

Ending the definitions, the **environmental issues** refer to the conditions and characteristics of the state and functioning of the natural environment and ecosystems. It runs as follows: loss of biological diversity, emissions of greenhouse gases, renewable energy, energy efficiency, mining/mining depletion of natural resources, waste management, ozone layer depletion, changes in land use and cover, ocean acidification, and changes in the nitrogen and phosphorus cycles. The **social issues** deal with protecting and fulfilling the support requirements for individuals and other groups. Human rights best describe these, labour with business and management, corporate operations and social responsibility, conflicts and operations, healthcare and medicine, consumption and consumers, and the controversial use of weapons. The **economic issues** relate to the consequences of investments, fiscal measures, and taxation on the local, national, and international economic situation. It includes the positive and negative financial impact within financials and viability in any focal area, as well as secondary impacts such as employ-

²⁷ Fawzy, S., Osman, A. I., Doran, J., & Rooney, D. W. (2020). Strategies for mitigation of climate change: a review. *Environmental Chemistry Letters*, 18, 2069-2094.

²⁸ Kwakye, J. M., Ekechukwu, D. E., & Ogundipe, O. B. (2024). Climate Change Adaptation Strategies for Bioenergy Crops: A Global Synthesis.

²⁹ Sovacool, B. K., Newell, P., Carley, S., & Fanzo, J. (2022). Equity, technological innovation and sustainable behaviour in a low-carbon future. *Nature human behaviour*, 6(3), 326-337.

ment, chain reactions within the supply chain, and infrastructure. The **governance issues** include board structuring, board size, board diversity, board and management skills and independence, executive pay, shareholder rights, stakeholder communication, transparency and disclosure, business and corporate ethics, anti-bribery /corruption, internal controls, risk control, and organizational relations including managing relations with and within the organisation and other organisations (management, shareholders, stakeholders, customers etc).

The **relationship between these terms** reveals a cohesive framework for achieving sustainable development, which integrates environmental, social, and economic aspects backed by strong governance. A comparison of such terms demonstrates a shared framework for considering sustainable development compatible with environmental and social requirements and creating economic value underpinned with good governance. The essence of environmental sustainability work includes climate change mitigation and adaptation, which are essential in responding to current global environmental problems. Accordingly, low-carbon practices can be seen as practices that contribute to climate change mitigation by decreasing GHG emissions. In contrast, green practices can be viewed as environmental and social sustainability practices that encourage everyone to practice green actions that benefit communities. The socioenvironmental side reflects the interdependence between social and environmental factors, while sustainable practices help ensure that resources and ecosystems are managed responsibly, supporting sustainable development.³⁰

³⁰ Wijayasekera, S. C., Hewage, K., Siddiqui, O., Hettiaratchi, P., & Sadiq, R. (2022). Waste-to-hydrogen technologies: A critical review of techno-economic and socio-environmental sustainability. *International Journal of Hydrogen Energy*, 47(9), 5842-5870.

Ndukwe, O., & Ogbonnaya, D. (2023.) Climate Change in Nigeria: The Role of Green Public Administration. *International Academic Journal of Business School Research*. Vol. 8, Issue 7. 50-65.

4.1. Green Public Administration

Green Public Administration (GPA) is a relatively new field of study, which can be defined as the practice of incorporating environmental sustainability principles into public sector governance within the framework of public administration.³¹ It seeks to integrate environmental concerns into governmental institutions' policies, programs, and operations at all levels, aiming to promote sustainability, environmental protection, and ecological balance while delivering public services. It also responds to global environmental challenges such as climate change, biodiversity loss, and resource depletion.

In the 21st century, the **concept of GPA** has gained prominence as governments worldwide have recognized the need to incorporate environmental considerations into their policies and practices. In 2021, the **Council of Europe**, especially the **European Committee on Democracy and Governance (CDDG)** Report on Green Public Administration, emphasizes the importance of strong, effective, and accountable institutions for achieving sustainable development and green public administration. The **World Bank** launched the **Greening Public Administration with GovTech initiative** in 2023, which aims to help governments leverage digital technologies to build a greener future.³²

In the concept of the **Council of Europe**, CDDG, the term Green Public Administration refers to a process of decision-making at all levels of government (international, supranational, national, and subnational) that integrate considerations of environmental and climate change issues in order to achieve a clean, healthy and sustainable environment for all, in line with the Sustainable Development Goals and the obligations under the Paris Agreement.³³ It is commonly used to describe action plans, measures, policies, and governance by public authorities and bodies in a variety of areas, such as:

³¹ Meadowcroft, J. (2006). 4 Environmental political economy, technological transitions and the state. In *Key Debates in New Political Economy* (pp. 57-78). Routledge.

³² World Bank. (2023). *Greening Public Administration with GovTech - Embracing a Green Digital Transition: Guidance Note - Volume 1*. Equitable Growth, Finance and Institutions Insight - Governance. © Washington, DC: World Bank.
<https://openknowledge.worldbank.org/entities/publication/da6a5f54-01b7-4519-ab62-e2fd2cabe06> ; <https://www.worldbank.org/en/events/2023/11/14/greening-public-administration-with-govtech-embracing-a-green-digital-transition>

³³ European Committee on Democracy and Governance (CDDG) (2023). Report on Green Public Administration. <https://rm.coe.int/report-on-green-public-administration-final-2784-4437-5304-v-1/1680ad9262>

- *tackling climate change*, for example, by enacting climate laws, implementing net zero policies, investing in renewable energies, promoting a circular economy, developing green jobs;
- *protecting biodiversity*, including forests, wetlands and the sea; implementing environmental impact assessments;
- *protecting other aspects of the environment*, such as through measures to reduce pollution levels; ensuring clean water; limiting and managing waste, including plastic;
- integrating environment and climate in *ex-ante regulatory impact assessments* and *ex-post evaluations*;
- *using fiscal and other financial instruments* to promote green/sustainability transitions, for example, by shifting the tax base from labour to pollution and fossil energy; by stepping up green public procurement, and by making greening and sustainability visible in the annual budgeting cycle;
- *greening the internal organisation*, for instance, by minimising carbon and environmental footprint of running and managing public administration itself;
- *strengthening policy coherence for sustainable development*, including addressing the environmental footprint of developing countries (spill-over effects).

The **European Institute of Public Administration** founded the European Public Sector Award (EIPA - EPSA). Within this, the **Green Public Administration award** category is offered to projects that, with their operations and activities, are engaged in fighting climate change, energy, and sustainability.³⁴ This includes emission and pollutant control measures, use reduction, optimum use of natural resources, support for recycling, waste lessening, and pollution management and clean-up. These projects can be regarded as having a reasonably comprehensive coverage as they comprise projects that are by policy-making parastatals and organizations, designing priorities for services, strategic planning for delivery of service and spread, project planning, control and costing of service provision, and direct management of services and resources.

One of the **core aspects** of the GPA is **integrating environmental policy** with and within a broader public policy program. This helps ensure

³⁴ <https://www.eipa.eu/epsa-green-public-administration/>

that environmental considerations are not treated as independent issues. Nevertheless, it is embedded in economic, social, and infrastructural planning.³⁵ Public administrators and government agencies play a key role in implementing and enforcing **environmental regulations**.³⁶ Therefore, the GPA emphasizes a regulatory framework that guides industry and public agencies in reducing pollution, preserving biodiversity, and promoting green technology, environmental sustainability, eco-efficiency, or circular economy.³⁷ The concept focuses on increasing the **resilience** of public systems to environmental changes such as natural disasters and climate change. The **adaptation strategies** such as climate-smart urban planning, and disaster risk reduction are key components of this approach.³⁸ The **environmental ethical leadership** in public administration is one of the foundations of the GPA.³⁹ This is because public administrators are expected to act as stewards of environmental sustainability. Ethical judgment guides the development and implementation policies that balance economic growth with ecosystem protection and ecological preservation.⁴⁰ In practice, the GPA promotes adopting **sustainable public management** practices during the government agency operation,

³⁵ Jordan, A., & Lenschow, A. (2010). Environmental policy integration: a state of the art review. *Environmental policy and governance*, 20(3), 147-158.

Kis, N., Pálvölgyi, T., Szűcs Gábor, G., Györfyné Kukoda, A. E., & Klotz, B. (2023). A környezeti fenntarthatósággal kapcsolatos közigazgatási attitűdök. *Acta Humana: Emberi Jogi Közlemények*, 11(3), 7-28.

³⁶ Shao, S., Hu, Z., Cao, J., Yang, L., & Guan, D. (2020). Environmental regulation and enterprise innovation: a review. *Business strategy and the environment*, 29(3), 1465-1478. ; Murshed, M., Rahman, M. A., Alam, M. S., Ahmad, P., & Dagar, V. (2021). The nexus between environmental regulations, economic growth, and environmental sustainability: linking environmental patents to ecological footprint reduction in South Asia. *Environmental Science and Pollution Research*, 28(36), 49967-49988.

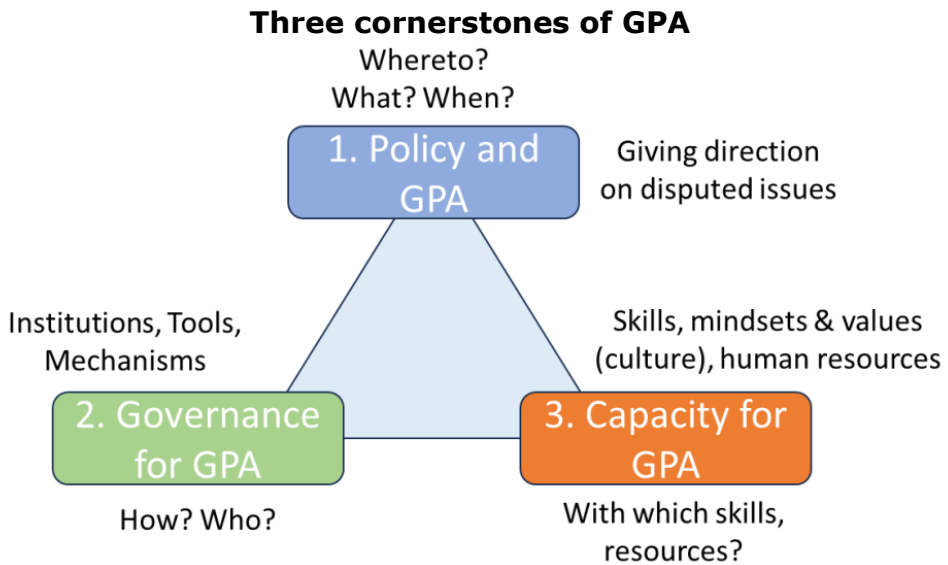
³⁷ Mazmanian, D. A., & Kraft, M. E. (Eds.). (2009). *Toward sustainable communities: Transition and transformations in environmental policy*. MIT Press.

³⁸ Biermann, F., Betsill, M., Gupta, J., Kani, N., Lebel, L., Liverman, D., ... & Siebenhüner, B. (2009). *Earth System Governance: People, Places and the Planet*. Science and Implementation Plan of the Earth System Governance Project.

³⁹ Ahmad, S., Islam, T., Sadiq, M., & Kaleem, A. (2021). Promoting green behavior through ethical leadership: a model of green human resource management and environmental knowledge. *Leadership & Organization Development Journal*, 42(4), 531-547.

⁴⁰ Vig, N. J., & Kraft, M. E. (Eds.). (2012). *Environmental Policy: New Directions for the Twenty-First Century 8th Edition*. Sage. Rabe, B. G., Vig, N. J., & Kraft, M. E. (2019). Racing to the top, the bottom, or the middle of the pack: The evolving state role in environmental protection. *Norman J. Vig, and Michael E. Kraft*, 37-65. ; Aftab, J., Abid, N., Sarwar, H., & Veneziani, M. (2022). Environmental ethics, green innovation, and sustainable performance: Exploring the role of environmental leadership and environmental strategy. *Journal of Cleaner Production*, 378, 134639.

which includes reducing your carbon footprint, efficient management of natural resources, using renewable energy sources, and promoting environmentally friendly procurement processes.⁴¹ Finally, GPA recognizes the need for **collaboration and participation of stakeholders** in environmental governance. Governments, private organizations, non-governmental organizations (NGOs), and the general public work together to solve environmental problems.⁴²



European Committee on Democracy and Governance (CDDG) (2023). Report on Green Public Administration. <https://rm.coe.int/report-on-green-public-administration-final-2784-4437-5304-v-1/1680ad9262>

GPA encompasses **policy, governance, and capacity challenges** at the same time. In comparison, it is essential to differentiate between policy (WHAT and WHEN: visions, goals, targets, and timelines), governance

⁴¹ Rainey, H. G., & Bozeman, B. (2000). Comparing public and private organizations: Empirical research and the power of the a priori. *Journal of public administration research and theory*, 10(2), 447-470. ; Osborne, S. P., Radnor, Z., Kinder, T., & Vidal, I. (2015). The SERVICE framework: A public-service-dominant approach to sustainable public services. *British journal of management*, 26(3), 424-438.

⁴² Dryzek, J. S. (2022). *The politics of the earth: Environmental discourses*. Oxford university press.

(HOW: mechanisms, instruments, tools, skills, and responsibilities), and capacity (WHO: skills, mindsets, values, human resources).⁴³ The first two are closely linked and often overlap. Policy tends to be more politically and socially sensitive than governance. Governance structures and mechanisms are often more enduring and resilient to disruption than policies. There are three main governance styles: hierarchical (formal structures, rule of law), network (informal structures, partnerships), and market (self-regulation, competition, fiscal incentives).⁴⁴ The administration should be flexible in choosing, blending, or switching between these styles based on the situation, a practice known as "metagovernance".⁴⁵ When a government initiative fails, the immediate response is usually to criticize the policy goals, targets, or timelines. However, many failures are actually due to governance issues rather than flaws in the policy itself. For example, promoting waste separation is a policy decision about a governance tool; which also could require legal mandates (hierarchical), awareness campaigns (network), or financial incentives (market), with the necessary public servant labour force.⁴⁶

From another point of view, the concept of GPA involves two key dimensions: (i) **greening the public administration itself** and (ii) **executing, creating, and implementing green policies**. These two sides are complementary, with the former focusing on internal government practices and the latter on policy development and enforcement to promote environmental sustainability.

Greening the public administration involves transforming government institutions' internal operations and management to align with sustainability principles. This dimension focuses on reducing the environmental impact of the public sector and adopting eco-friendly practices across various

⁴³ Veerasamy, U., Joseph, M. S., & Parayitam, S. (2024). Green human resource management and employee green behaviour: participation and involvement, and training and development as moderators. *South Asian Journal of Human Resources Management*, 11(2), 277-309.

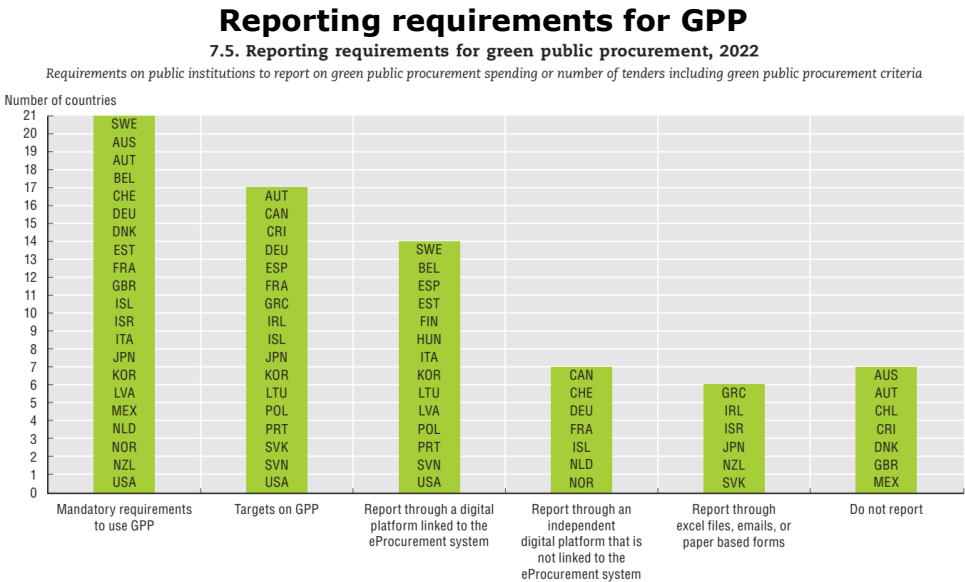
⁴⁴ Pollitt, C., & Bouckaert, G. (2011). Public management reform: A comparative analysis of NPM, the Neo-Weberian State, and New Public Governance.

⁴⁵ Jessop, B. (2020). Putting civil society in its place: Governance, metagovernance and sub-jectivity. Bristol University Press. ; Newman, J., Collinson, S., Driffield, N., Gilbert, N., & Hoole, C. (2024). Mechanisms of metagovernance as structural challenges to levelling up in England. *Regional Studies*, 58(4), 876-892. ; Meuleman, L. (2008). *Public management and the metagovernance of hierarchies, networks and markets: The feasibility of designing and managing governance style combinations*. Springer Science & Business Media.

⁴⁶ European Committee on Democracy and Governance (CDDG) (2023). Report on Green Public Administration.

governmental activities. Governments can set a **Sustainable Resource Management (SRM)** by managing their resources – such as energy, water, and materials – more sustainably.⁴⁷ This includes adopting energy-efficient practices in government buildings, reducing paper usage, and encouraging recycling programs across public offices; shifting to digital platforms, for instance, minimizes paper consumption and transportation costs.⁴⁸

Public institutions can implement **green public procurement (GPP) policies**, ensuring that goods and services purchased by the government meet certain environmental criteria. This involves prioritizing vendors and products that reduce environmental footprints, such as those offering renewable energy options, eco-labelled products, or low-emission technologies.⁴⁹



OECD (2023). *Government at a Glance* report 2023.

The OECD's 2023 *Government at a Glance* report summarizes Green Public Procurement (GPP) implementation in OECD countries based on a 2022 survey covering policy framework, public-private interactions, impact

⁴⁷ Chen, F. F., Wang, Q. S., Umar, M., & Zheng, L. (2023). Towards sustainable resource management: the role of governance, natural resource rent and energy productivity. *Resources Policy*, 85, 104026.

⁴⁸ Bovaird, T., Löffler, E., & Loeffler, E. (Eds.). (2003). *Public management and governance* (Vol. 3). London: Routledge.

⁴⁹ Chersan, I. C., Dumitru, V. F., Gorgan, C., & Gorgan, V. (2020). Green public procurement in the academic literature. *Amfiteatru Economic*, 22(53), 82-101. ; Thai, K. V. (2001). Public procurement re-examined. *Journal of public procurement*, 1(1), 9-50.

evaluation, and capacity building. Among 34 responding countries, 14 (41%) have mandatory GPP requirements, while 10 (29%) set GPP targets. Seven countries have both mandatory requirements and targets, but three have neither. Additionally, seven countries do not require reporting on GPP spending. The report emphasizes the need for streamlined monitoring, with 14 countries using digital platforms and most regularly publishing GPP expenditure data to enhance transparency and public trust.⁵⁰ The European Union's Green Public Procurement (GPP) strategy encourages E.U. member states to ensure that public sector purchases consider environmental impacts, including reducing greenhouse gas emissions and minimizing resource use.⁵¹ The terminology is defined in the Communication (COM -2008- 400) Public procurement for a better environment as a process whereby public authorities seek to procure goods, services, and works 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.⁵² The **voluntary EU GPP Criteria** cover the following product groups: Computers, monitors, tablets, and smartphones (2021); Data centres, server rooms, and cloud services (2020); Electricity (2012); Food catering services and vending machines (2019); Furniture (2017); Imaging equipment, consumables and print services (2020); Indoor cleaning services (2018); Office building design, construction and management (2016); Paints, varnishes and road markings (2018); Public space maintenance (2019); Road design, construction and maintenance (2016); Road lighting and traffic signals (2018); Road transport (2021); Textile products and services (2017).⁵³

⁵⁰ OECD (2023). *Government at a Glance* report 2023. OECD (2022), *Life-Cycle Costing in Public Procurement in Hungary: Stocktaking of Good Practices*, OECD Public Governance reviews, OECD Publishing, Paris. ; OECD (2019). *Reforming Public Procurement: Progress in Implementing the 2015 OECD Recommendation*, oecd Public Governance reviews, oecd Publishing, Paris,

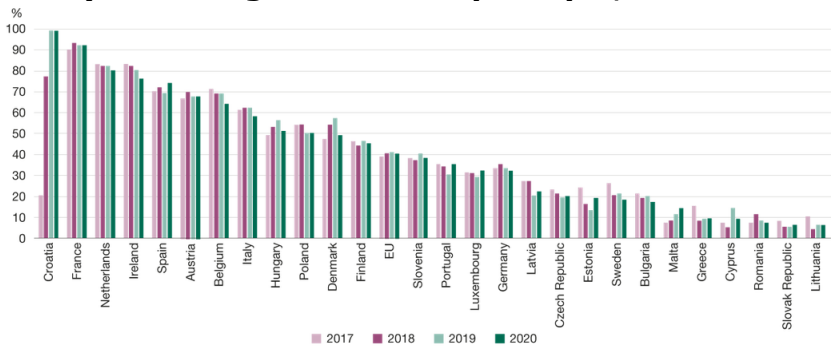
⁵¹ Testa, F., Iraldo, F., Frey, M., & Daddi, T. (2016). Examining green public procurement using content analysis: Existing difficulties for procurers and useful recommendations. *Environment, Development and Sustainability*, 18(1), 197-219.

⁵² Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions Public procurement for a better environment {SEC(2008) 2124} {SEC(2008) 2125} {SEC(2008) 2126} /* COM/2008/0400 final */

⁵³ EU - Green Public Procurement Criteria and Requirements https://green-business.ec.europa.eu/green-public-procurement/gpp-criteria-and-requirements_en

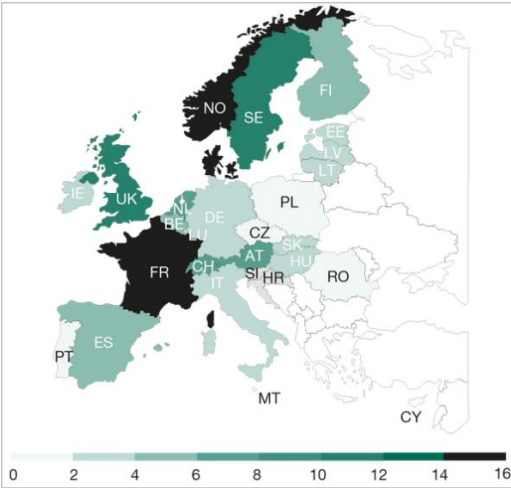
Delre, A., La Placa, M. G., Alfieri, F., Faraca, G., Kowalska, M. A., Vidal Abarca Garrido, C., & Wolf, O. (2022). Assessment of the European Union Green Public Procurement criteria for four product groups. *JRC science for policy report*. ; Pouikli, K. (2021, January). Towards mandatory Green Public Procurement (GPP) requirements under the EU Green

Proportion of procedures awarded using the most economically advantageous tender principle, 2017-2020



Sapir, A., Schraepen, T., & Tagliapietra, S. (2022). Green public procurement: A neglected tool in the European green deal toolbox? *Intereconomics*, 57(3), 175-178.

There are big differences among countries in using the MEAT principle, and there is ample room for increasing the uptake of GPP. Croatia, France, and the Netherlands use the most economically advantageous tender (MEAT) principle, while Slovakia, Lithuania, and Romania use the lowest-price criterion in more than 90% of procedures. Additionally, a general trend does not seem to be observable over time.⁵⁴ (The total public procurement amounts to around 14% of European Union GDP) The average proportion of green public procurement relative to all public procurement from 2006 to 2017, based on the TED (Tenders Electronic Daily) database. There are major differences between countries, ranging from less than 0.5% in Malta to more than 15% in Denmark and France. Moreover, most countries only apply GPP to procure less than 5% of their contracts.



Sapir, A., Schraepen, T., & Tagliapietra, S. (2022). Green public procurement: A neglected tool in the European green deal toolbox? *Intereconomics*, 57(3), 175-178.

Deal: reconsidering the role of public procurement as an environmental policy tool. In *Era Forum* (Vol. 21, No. 4, pp. 699-721). Berlin/Heidelberg: Springer Berlin Heidelberg.

⁵⁴ Sapir, A., Schraepen, T., & Tagliapietra, S. (2022). Green public procurement: A neglected tool in the European green deal toolbox?. *Intereconomics*, 57(3), 175-178.

Another important area is the **eco-friendly infrastructure** by adopting environmentally sustainable building designs and infrastructure. Governments can lead by example by investing in energy-efficient, low-carbon buildings and incorporating renewable energy sources like solar and wind power in government offices and public infrastructure.⁵⁵ Many governments are beginning **sustainable transportation measures** to lower the carbon footprint of government fleets by replacing conventional vehicles with electric or hybrid alternatives.⁵⁶ Within the capacity aspect, employee engagement and training are necessary in parallel with the shift in organizational culture. Training and educating public servants on environmental sustainability can foster behaviour that supports green goals. This includes encouraging sustainable work practices like reducing energy usage and adopting green commuting options.⁵⁷

The second dimension of GPA involves the role of public administrators in creating, executing, and enforcing **environmental and sustainability policies**. Here, the focus is on how government institutions can design and implement regulations, strategies, and programs that address environmental challenges at a broader societal level. Public administration plays a central role in **formulating policies** that address pressing environmental issues, such as climate change, air and water pollution, waste management, and biodiversity conservation. Once policies are developed, public administration ensures their execution, **implementation and enforcement**. This includes the allocation of resources, overseeing regulatory compliance, and developing the necessary infrastructure to support green initiatives. Enforcement mechanisms, such as penalties for non-compliance with environmental

⁵⁵ Gregory, L., & Jack, A. (2022). Optimizing Building Management Systems for Eco-Friendly Infrastructure. *International Journal of Advanced Engineering Technologies and Innovations*, 1(4), 19-34. ; Almalki, F. A., Alsamhi, S. H., Sahal, R., Hassan, J., Hawbani, A., Rajput, N. S., ... & Breslin, J. (2023). Green IoT for eco-friendly and sustainable smart cities: future directions and opportunities. *Mobile Networks and Applications*, 28(1), 178-202. ; Hopwood, B., Mellor, M., & O'Brien, G. (2005). Sustainable development: mapping different approaches. *Sustainable development*, 13(1), 38-52.

⁵⁶ Shah, K. J., Pan, S. Y., Lee, I., Kim, H., You, Z., Zheng, J. M., & Chiang, P. C. (2021). Green transportation for sustainability: Review of current barriers, strategies, and innovative technologies. *Journal of Cleaner Production*, 326, 129392. ; Schiller, P. L., & Kenworthy, J. (2017). *An introduction to sustainable transportation: Policy, planning and implementation*. Routledge.

⁵⁷ Kettl, D. F. (2015). *The transformation of governance: Public administration for the twenty-first century*. Jhu Press.

regulations, are critical to the success of green policies.⁵⁸ Successful environmental policies often require **collaboration and public engagement** between various sectors of society, including businesses, civil society, and local communities. Public administrators facilitate these partnerships, ensuring that stakeholders are engaged in the policy process and that green initiatives are widely adopted and supported. Furthermore, they are tasked with staying ahead of emerging environmental challenges with **innovation and adaptation**. This requires constant innovation in policy design, such as integrating climate resilience into urban planning and adapting to new technologies that can help mitigate environmental impacts.⁵⁹ On a broader scale, governments also participate in **international environmental frameworks**, such as the Paris Agreement, which involves national commitments to reduce greenhouse gas emissions by translating these international commitments into national policies and ensuring their implementation.⁶⁰

While the two dimensions – greening public administration and creating green policies – are distinct, they are interconnected. Governments that succeed in greening their operations and implementing effective green policies can significantly influence the transition to a more sustainable society. In this context, the public sector acts as both a model and a regulator of environmental sustainability, making the Green Public Administration a crucial part of global sustainability efforts.

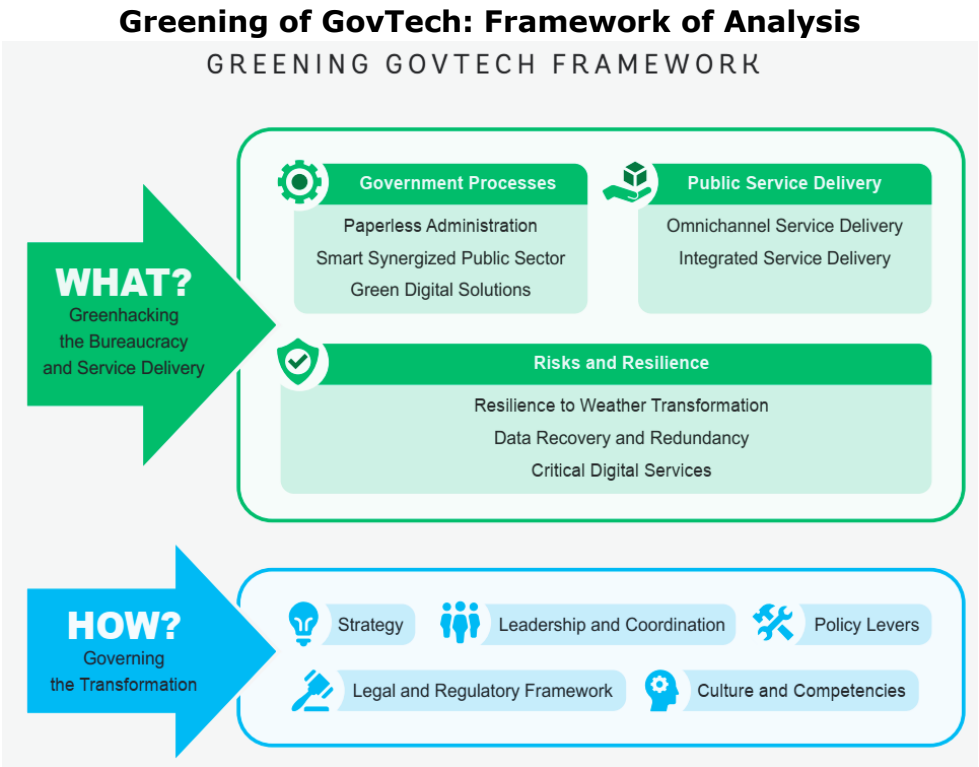
According to the **World Bank**, governments increasingly seek opportunities to leverage digital technologies to build a greener future. This guidance note provides useful advice to policymakers, underlining that adequate leadership and commitment are crucial to implementing coordinated GovTech and Green policies. The climate change impacts of digitalization can provide the benefits of green digital service delivery, paperless administration, and the efficiency of integrated services for a reduction of the carbon footprint. The guidance note focuses on **greening Public Administration through GovTech** defined as GovTech policies, initiatives, and/or solutions that embrace environmental considerations by design, maximizing

⁵⁸ Jordan, A., & Lenschow, A. (2010). Environmental policy integration: A state of the art review. *Environmental Policy and Governance*, 20(3), 147–158.

⁵⁹ Meadowcroft, J. (2005). Environmental political economy, technological transitions and the state. *New Political Economy*, 10(4), 479–498.

⁶⁰ Jordan, A., Huitema, D., van Asselt, H., & Forster, J. (Eds.). (2015). *Governing Climate Change: Polycentricity in Action?* Cambridge University Press.

the green benefits and considering the potential negative impacts, for example, through digitalization of government processes.⁶¹ This guidance note is centered around three main topics: (i) the green government process through digital solutions; (ii) greening digital service delivery; and (iii) identifying policy mechanisms to mainstream green digital approaches throughout government systems.⁶²



World Bank. (2023). *Greening Public Administration with GovTech - Embracing a Green Digital Transition: Guidance Note - Volume 1*. Equitable Growth, Finance and Institutions Insight - Governance. © Washington, DC: World Bank

⁶¹ Nose, M. (2023). Inclusive GovTech: Enhancing Efficiency and Equity Through Public Service Digitalization. International Monetary Fund - *IMF Working Paper*, Fiscal Affairs Department, WP/23/226 ; Kysh, L. (2022). Peculiarities of Govtech technologies implementation in the public administration system. *Scientific Journal of Polonia University*, 53(4), 183-190.

⁶² World Bank. (2023). *Greening Public Administration with GovTech - Embracing a Green Digital Transition: Guidance Note - Volume 1*. Equitable Growth, Finance and Institutions Insight - Governance. Washington, DC: World Bank.

The **key factors of GPA** can be structured around three central categories: **green, ecological, and social**, which are distinct from the commonly used ESG (Environmental, Social, Governance) framework. While ESG evaluates corporate responsibility and sustainability in the private sector, the GPA framework emphasizes public sector responsibilities in advancing sustainability through policy and governance. The green focuses on reducing environmental impact, promoting clean energy, and implementing sustainable practices in public administration. The ecological aspect ensures harmony with natural systems and aims to protect biodiversity and ecosystems sustainably and manage natural resources. While the social prioritizes human well-being, equity, fair access to resources, and fairness and inclusivity in a broader sense. We apply these categories to the goals and principles in the following table.

Key Factors of Green Public Administration		
	Factors for Goals	Factors for Principles
Green factors	• Reduce greenhouse gas emissions and energy consumption • Conserve and protect natural resources • Promote environmental awareness and engagement • Build resilience to climate change	• Integration • Leadership • Transparency • Accountability • Participation • Innovation • Equity
Ecological factors	• Protect and restore biodiversity • Combat pollution and waste • Ensure sustainable water management • Foster ecological resilience	• Precautionary approach • Ecosystem services valuation • Intergenerational equity • Polluter pays principle • Public participation • Scientific evidence-based policy • Continuous improvement
Social factors	• Promote social equity and inclusion • Enhance economic prosperity • Protect the environment • Sustainable Public Management • Ensure green governance	• Integration • Long-term perspective • Partnership • Effectiveness • Innovation • Equity • Sustainability

4.2. Key Factors for the Goals of GPA

This subpoint presents the rationale for determining the objectives of green public administration. A detailed breakdown of the key factors supports the GPA’s goals and principles, with specific attention to their environmental, social, and economic impacts. Such factors are legal aspects, political support, technological advancements, implementation of the public, and monetary support. In this section of the paper, each of these elements will be discussed to demonstrate how governments can achieve the principle of sustainability and address environmental issues to provide more efficient eco policies for future generations. With such key factors, sustainable environmental management and good green governance can be obtained. The key factors that relate to the goals of GPA are as follows:

Key Factors for the Goals of GPA

Green factors	Ecological factors	Social factors
•Reduce greenhouse gas emissions and energy consumption •Conserve and protect natural resources •Promote environmental awareness and engagement •Build resilience to climate change	•Protect and restore biodiversity •Combat pollution and waste •Ensure sustainable water management •Foster ecological resilience	•Promote social equity and inclusion •Enhance economic prosperity •Protect the environment •Sustainable Public Management •Ensure green governance

Green Factors

One of the primary objectives of green goals is to **reduce greenhouse gas emissions and energy consumption**.⁶³ This can be achieved through the correct energy management practices in government structures, raising the share of renewable energy sources, and providing effective and environmentally friendly transport for state officials. The policy, therefore, asserts that these efforts significantly reduce governmental operations' environmental impact in the fight against climate change.

Another crucial goal is to **conserve and protect natural resources**.⁶⁴ This can be accomplished by establishing sustainable procurement policies that encourage the purchase of recycled and environmentally friendly goods. Altogether, processes of reasonable control of waste generated and proper waste disposal measures should be implemented in conjunction with measures on the conservation of biological diversity and land-use planning. The “nonuse rights” to public natural resources would enable markets to advance environmental goals, leading to more stable and less contentious outcomes.⁶⁵ Such elements and measures not only help to save the resources that can be found in the natural environment but also provide for the long-term stability of the environment.

Besides, for governments to encourage sustainability, they must also **promote environmental awareness and engagement** to create awareness and participation in environmental issues.⁶⁶ The efficiency of green living practices requires constant reminders to the citizens, hence the need for incorporation into the public education curriculum. Raising awareness of citizens in environmental management issues and mainstreaming environmental issues into government operations means that there should be general acceptance from all quarters in the country.

⁶³ Alamoush, A. S., Ballini, F., & Ölçer, A. I. (2020). Ports' technical and operational measures to reduce greenhouse gas emission and improve energy efficiency: A review. *Marine Pollution Bulletin*, 160, 111508.

⁶⁴ Scott, A. (1983). *Natural resources: The economics of conservation*. McGill-Queen's Press-MQUP.

⁶⁵ Leonard, B., Regan, S., Costello, C., Kerr, S., Parker, D. P., Plantinga, A. J., ... & Stoellinger, T. (2021). Allow “nonuse rights” to conserve natural resources. *Science*, 373(6558), 958-961.

⁶⁶ Chen, X., Huang, B., & Lin, C. T. (2019). Environmental awareness and environmental Kuznets curve. *Economic Modelling*, 77, 2-11. ; Handayani, W., Ariescy, R. R., Cahya, F. A., Yusnindi, S. I., & Sulisty, D. A. (2021). Literature review: environmental awareness and pro-environmental behavior. *Nusantara Science and Technology Proceedings*, 170-173.

Finally, more efforts must be directed to evolving adaptation strategies as pertained to infrastructure – structures and systems that **build resilience to climate change** impacts and to cultivating sound coping strategies and contingency plans in the event of disasters.⁶⁷ Supporting research and innovation in climate adaptation technologies is also vital for ensuring that societies are equipped to handle the challenges posed by a changing climate.

Ecological Factors

The attainment of ecological objectives is equally important to developing a sound and sustainable environment, development efforts across various fields. One of the primary factors is to **protect and restore biodiversity**.⁶⁸ This can be done through effective participation in the provisions of broad programmes on the subject, such as those for endangered species and their habitats. Conservation of strategic ecosystems requires protection of the areas and proper management of the protected regions, while the role of indicators of sustainable agriculture and other associated land use systems is considered a key input in improving on the ecology.

Another critical factor is the need to **combat pollution and waste** that is produced by human beings.⁶⁹ This is done through increased air, water, and soil pollution control and improved legislation. Measures for controlling and minimizing waste generation at the source and reusing and recycling products should be adopted. In addition, the encouragement of cleaner production technologies substantially reduces overall environmental burdens and supports the circular economy.

⁶⁷ Huang, X., Khan, Y. A., Arshed, N., Salem, S., Shabeer, M. G., & Hanif, U. (2023). Increasing social resilience against climate change risks: a case of extreme climate affected countries. *International Journal of Climate Change Strategies and Management*, 15(3), 412-431. ; Morecroft, M. D., Crick, H. Q., Duffield, S. J., & Macgregor, N. A. (2012). Resilience to climate change: translating principles into practice. *Journal of Applied Ecology*, 49(3), 547-551.

⁶⁸ Folkard-Tapp, H., Banks-Leite, C., & Cavan, E. L. (2021). Nature-based Solutions to tackle climate change and restore biodiversity. *Journal of Applied Ecology*, 58(11), 2344-2348.

⁶⁹ Song, C., Wu, Z., Dong, R. K., & Dinçer, H. (2023). Greening south Asia: Investing in sustainability and innovation to preserve natural resources and combat environmental pollution. *Resources Policy*, 86, 104239. ; Grizzetti, B., Vigiak, O., Udias, A., Aloe, A., Zanni, M., Bouraoui, F., ... & Bielza, M. (2021). How EU policies could reduce nutrient pollution in European inland and coastal waters. *Global Environmental Change*, 69, 102281.

Ensuring **sustainable water management** is also pivotal for attaining any given ecological objectives.⁷⁰ Action must be taken to protect water resources for the future; therefore, there is a need to invest in water storage infrastructures and technologies. Conserving water quality requires safe approaches for wastewater treatment as well as the control of pollution in water systems for the health of ecological systems. Also, the efficient management of water resource use in agricultural and industrial activities can enhance sustainability by reducing the impact on the natural resource base.

Last but not least, the aspect of **ecological resilience** should be encouraged to overcome the impacts of environmental deterioration.⁷¹ Restoring and rehabilitating degraded ecosystems and encouraging natural recovery as part of ecosystem improvement measures needed to boost ecological health. The incorporation of ecological aspects into the planning and use of urban land guarantees that mankind will practice sustainable use of natural resources. Furthermore, public preparedness for ecological disasters like wildfires and floods is paramount to protecting people and communities and preserving ecological integrity.⁷²

Social Factors

It should be among the main objectives – since it forms a premise – providing a just, equitable, and sustainable society, eliminating social inequalities. Among the priority areas, we consider the **promotion of social equity and inclusion** to ensure that all citizens have equal rights to public services irrespective of social status,⁷³ such as attempts to combat poverty and inequality as an acceptable means of promoting socio-economic inclusion. This type of governance also ensures that the citizens get involved in the decision-making processes, hence providing need-oriented government.

⁷⁰ Aivazidou, E., Baniyas, G., Lampridi, M., Vasileiadis, G., Anagnostis, A., Papageorgiou, E., & Bochtis, D. (2021). Smart technologies for sustainable water management: An urban analysis. *Sustainability*, 13(24), 13940. ; Walters, C. R., & Steyn, M. (2022). From waste to resource: Opportunities and challenges to combat water scarcity.

⁷¹ Dakos, V., & Kéfi, S. (2022). Ecological resilience: what to measure and how. *Environmental Research Letters*, 17(4), 043003.

⁷² Singh, Z. (2020). Disasters: Implications, mitigation, and preparedness. *Indian journal of public health*, 64(1), 1-3.

⁷³ Amorim-Maia, A. T., Anguelovski, I., Chu, E., & Connolly, J. (2022). Intersectional climate justice: A conceptual pathway for bridging adaptation planning, transformative action, and social equity. *Urban climate*, 41, 101053.

Of course, it is necessary to enhance economic prosperity and social aim.⁷⁴ This can be achieved by encouraging innovation and entrepreneurs who develop sustainable employment opportunities and the economy. For sustainable development, it is also necessary to build enough infrastructure and work for economic growth that would include all the layers of the society. The empirical evidence suggests that economies should simultaneously achieve economic and environmental goals by decoupling energy consumption from economic growth, which can be accomplished through improvements in energy efficiency.⁷⁵ There is also a need to encourage sound fiscal and budgetary mechanisms to foster long-run growth, which will foster development and prosperity.

Thus, alongside with social and economic goals and tasks, it is possible and urgent to implement measures for the **protection of the environment**. This means that policy implementers need to establish measures that will politically promote the protection of the environment and conservation of natural resources in a way that these resources can be availed for future generations. This is an important segment of the programmes aimed at preventing climate change and, at the same time, be ready for its consequences. Integrating sustainable development into all that the government does is necessary to achieve economic and social goals as set objectively within the foreseeable future but without compromising the needs of the immediate environment.

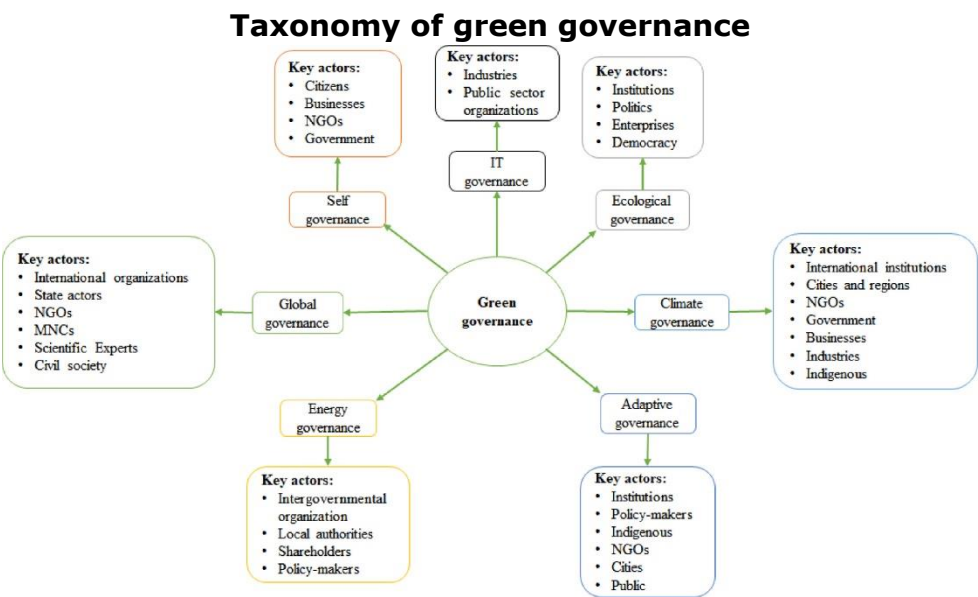
In the operations through **green and good governance**, the public administration of legislation and policies is in action by action, providing social service, managing the public budget, and promoting investment and innovation.⁷⁶ The population must fulfil this duty, which is supposed to serve the people's needs while ensuring the important tenets of good democratic governance, trust, reliability, and credibility. Sustain the policy of openness, transparency, accountability, responsibility, and adherence to the principles of the rule of law. Make sure that where public service is available, it is good quality service that can also respond to the people's needs. Strengthen democratic structures and engagement of citizens. Green governance is a form of

⁷⁴ Lima de Miranda, K., & Snower, D. J. (2020). Recoupling economic and social prosperity. *Global Perspectives*, 1(1).

⁷⁵ Chen, W., Alharthi, M., Zhang, J., & Khan, I. (2024). The need for energy efficiency and economic prosperity in a sustainable environment. *Gondwana Research*, 127, 22-35.

⁷⁶ Usman, B. M., Johl, S. K., & Khan, P. A. (2024). Fusion of Green Governance for Sustainable Development and World Ecology: A Tempting Systematic Review and Bibliometric Analysis. *Journal of Open Innovation: Technology, Market, and Complexity*, 100309.

governance that adopts sustainable development and environmental protection through policy-making, execution, and assessment.⁷⁷



Debbarma, J., & Choi, Y. (2022). A taxonomy of green governance: A qualitative and quantitative analysis towards sustainable development. *Sustainable Cities and Society*, 79.

The state-of-the-art approaches in green governance

Ref.	Topic Area	Contributions	Approaches
Lin et al. (2019)	Chinese Firms in Pollution-Intensive Industries	Proposed a framework for green governance along two dimensions: FDI policy and environmental regulation.	Cluster analysis, case study
Capatina et al. (2019)	European online eco-label retailing.	Presented a framework for intellectual capital constructs for building green governance in eco-labelling.	Exploratory
Delman (2019)	Green Governance in Hangzhou	Illustrated how the incorporation of green policies and sustainability features may promote green governance.	Case study
Li et al. (2018)	Green Governance	Built a green governance framework that includes related theories of green governance.	Literature and theoretical analysis

⁷⁷ Debbarma, J., & Choi, Y. (2022). A taxonomy of green governance: A qualitative and quantitative analysis towards sustainable development. *Sustainable Cities and Society*, 79, 103693.

Mahmood and Orazalin (2017)	Kazakhstan's oil, gas, and mining sector.	Investigated the impact of board characteristics on green governance and SR.	Panel regression model and Hausman's specification test
Kusis et al. (2017)	Environmental education infrastructure in Latvia	Examined the green governance principles development in environmental education infrastructure integration.	Case study
Bradley and Ziniel (2017)	Local politics and ethical businesses in Great Britain	Estimated the relationship between third-party political on British local councils and ethical businesses.	Zero-inflated Poisson regression
Kuo et al. (2015)	Chinese firms	Examined whether Chinese firms' green governance differs from ownership in the Eleventh and Twelfth Five-Year Plans.	Content analysis
Fay et al. (2014)	Sustainable Urbanization in China	Reviewed research on green governance in urban China and discussed its main implications in emerging global green growth.	Theoretical analysis
Padilha and Verschoore (2013)	Municipalities of São Lourenço do Sul, Gravataí, Ijuí and Vacaria.	Proposed and analyzed a set of collective governance that address green governance of local sustainable development.	Content analysis
Post et al. (2011)	Fortune 1000 electronics and chemicals firms	Examined the relationship between board composition and ECSR of green governance.	Regression
Ervine (2007)	United States	Identified how environment facility of green governance has been transformed into a mechanism of global capital.	Case study
Doern (1993)	Canadian Department of the Environment	Examined conceptual issues from sectoral to macro of green governance seek to institutionalize sustainable development.	Case study

Debbarma, J., & Choi, Y. (2022). A taxonomy of green governance: A qualitative and quantitative analysis towards sustainable development. *Sustainable Cities and Society*, 79, 103693.

4.3. Key Factors for the Principles of GPA

After the goals, this subpoint defines the factors of the principles underpinning green public administration after the goals. The following section explains other core aspects that define these principles, including transparency, accountability, equity, and efficiency. These core values are essential in making certain that environmental policies avert from being “yes-sir” strategies that are both unethical and non-inclusive to society. With the understanding of how these principles work in decision-making and service delivery to the public, this chapter propounds some ways to help the government steer society towards a greener approach to governance without sacrificing the welfare and well-being of the public.

Key Factors for the Principles of GPA

Green factors	Ecological factors	Social factors
•Integration •Leadership •Transparency •Accountability •Participation •Innovation •Equity	•Precautionary approach •Ecosystem services valuation •Intergenerational equity •Polluter pays principle •Public participation •Scientific evidence-based policy •Continuous improvement	•Integration •Long-term perspective •Partnership •Effectiveness •Innovation •Equity •Sustainability

Green Factors

The factors for guiding green public administration relate to principles of governance in as much as they are fundamentals in enabling governments to manage environmental issues while delivering sustainability and equality. These principles are informed by several factors underpinning the character of environmental governance and the state of its institutionalization. When

those factors are included in policy formulation and implemented into practices by governments, ecological issues are well handled, natural resources preserved, and ensure that environmental stewardship benefits both present and future generations.

One critical factor is **integration**, where environmental issues should be a core of every government activity and program.⁷⁸ This implies that sustainability is integrated with other issues rather than presented as a concern to a section; instead, it cuts across issues such as transport, health, energy, and urban planning. These approaches offer a way for environmental priorities to become embedded within policy-making at the heart of the development objectives and provide a mechanism for ensuring or checking that environmental impacts are assessed and managed. It further enhances the synergy of governance since ecological space is optimally maintained for durable ecological space and social and economic gains.

The next factor is closely connected with **leadership**: the organization's leader or management.⁷⁹ This implies that public institutions should be models of good practice in sustainable initiatives within their own undertakings. It consists of reducing energy usage and promoting renewable energy usage of power and tenders for green products. Leadership in these cases also bears the responsibility of government agencies, setting the tone for organizations and citizens by demonstrating that sustainability can be attained without coming at the expense of efficiency or productivity. Positive leadership communicates to all and sundry – this is not just a regulatory requirement but a social duty everyone must execute.

It is worth noting that **transparency** is another of the central factors for achieving trust and accountability of GPA.⁸⁰ The government and/or each municipality must guarantee free access to information, which means that the people have the right to be informed about the government and other activities regarding the environment. Transparency increases green policymaking legitimacy because the public can scrutinize it; it also minimizes corruption and boosts policy performance. When governments provide environmental

⁷⁸ Kumar, S., Darshna, A., & Ranjan, D. (2023). A review of literature on the integration of green energy and circular economy. *Heliyon*.

⁷⁹ Kardoyo, K., Feriady, M., Farliana, N., & Nurkhin, A. (2020). Influence of the green leadership toward environmental policies support. *The Journal of Asian Finance, Economics and Business*, 7(11), 459-467. ; Begum, S., Ashfaq, M., Xia, E., & Awan, U. (2022). Does green transformational leadership lead to green innovation? The role of green thinking and creative process engagement. *Business Strategy and the Environment*, 31(1), 580-597.

⁸⁰ Deng, Y. Y., & Yang, Y. C. (2022). Exploring the role of green attributes transparency influencing green customer citizenship behavior. *British Food Journal*, 124(5), 1473-1484.

data, they make civil society and the private sector agents pro – active in achieving sustainable development goals.⁸¹

Another reason for disclosure is linked with the concept of **accountability**, whereby performance against set environmental targets must be assessed and communicated.⁸² Much of what governments need to do has already been highlighted: there must be defined targets and clear metrics for effective greening, and often, these targets must be regularly published in progress reports on a fixed agenda. This, in turn, makes it possible to establish to what extent public institutions are living up to agreed obligations and offers a tool for indicators for improvement. Governance then makes it possible for one to know where these policies are lacking to know where to change its strategies to get better results.

Further factor is **participation**, which is the extent to which citizens and stakeholders can input into environmental decision-making. For one, inclusive participation just means that all citizens' views are brought to the table, and policy is no longer decided by just one demography. Secondly, citizens are willing to contribute to decisions being made about environmental policies since they feel ownership of the issue. Businesses, NGOs, and local communities must engage in policy-making since having a technically sound policy means little if it is unpopular and unsupported.

The above analysis confirms that **innovation** is a core enabler of green public administration progress since improving environmental performance is most effective due to emerging new difficulties. Governments have to go out looking for new technologies, practices or approaches that are more sustainable.⁸³ Careful and efficient energy usage may result in finding other clean energy sources, rational use of other resources, and better ways of handling waste and pollution. In a similar context, the role of public institutions cannot be overlooked as they can provide wholesale support to research and development, incentives formulation for green technologies, and partnerships between public and private domains for the adoption of innovative solutions. Hemphill reviews the four innovation governance approaches (the

⁸¹ Androniceanu, A. (2021). Transparency in public administration as a challenge for a good democratic governance. *Revista» Administratie si Management Public «(RAMP)*, (36), 149-164.

⁸² Ozga, J. (2020). The politics of accountability. *Journal of Educational Change*, 21(1), 19-35. ; Petrie, M., & Petrie, M. (2021). *Environmental Governance and the Greening of Fiscal Policy* (pp. 109-142). Springer International Publishing.

⁸³ Xiang, X., Liu, C., & Yang, M. (2022). Who is financing corporate green innovation?. *International Review of Economics & Finance*, 78, 321-337.

precautionary principle, responsible innovation, permissionless innovation, and the innovation principle), including definitions, essential attributes, and weaknesses. He recommends the following policy proposals: embrace artificial intelligence/machine learning/data analytics for risk management and regulatory adaptability; consider “soft law” as an option to public regulation; and substitute corporate citizenship for corporate social responsibility.⁸⁴

Innovation governance approaches

Typologies	Precautionary Principle	Responsible Innovation	Permissionless Innovation	Innovation Principle
Risk	The “cause-and-effect” relationship between an action and effect is not fully established scientifically, thus defers to a “worst case” scenario.	This approach takes an “anticipatory” approach to societal benefit and costs of technological innovation, recognizing the social costs that markets do not internalize.	Experimentation with technology is encouraged, and should generally be permitted by default.	Protect society and the environment, while simultaneously protecting Europe’s ability to attract and benefit from technological innovation.
Risk Level	Credible threat of catastrophic or irreversible harm to human health or the environment is “morally unacceptable.”	Characterized as “much less” constraining, i.e., accepting (and managing) risk, than the precautionary principle.	Innovation should be allowed to continue unabated, unless a “compelling case” is made that it will bring serious harm to society.	The innovation principle should be utilized in conjunction with the precautionary principle; it is not intended to be used to undermine the importance of the precautionary principle.
Burden of Proof	The proponent of innovation bears the burden of proof – and not the public.	Characterized as not constraining “the set of options for researchers and businesses”, but is concerned with “potential risks, dangers, and public worries.”	Constraints on the innovator should be “the last resort”, based on the legal concept of “innocent until proven guilty.”	It is identical to the precautionary principle i.e., the proponent of innovation bears the burden of proof – and not the public.
Regulatory Response	Public regulation is the default position.	It is not “a doctrine of regulation”; however, regulation is an	As a last resort, regulation imposed should be	Should avoid “unnecessary regulation” ...

⁸⁴ Hemphill, T. A. (2020). The innovation governance dilemma: Alternatives to the precautionary principle. *Technology in Society*, 63, 101381.

		acceptable response when deemed necessary for public safety and to mitigate environmental harm.	based on evidence of "concrete" potential harm, not worst-case hypotheticals." However, such regulation should emphasize "flexible, bottom-up" solutions (of an <i>ex post</i> nature) versus "rigid, top-down controls (of an <i>ex ante</i> nature).	move from prescriptive to dynamic and adaptive regulation ... consider both risks and benefits ... and weigh risks and benefits of alternative solutions (rather than negative aspects of a single approach or solution).
Governance Perspective	There are two variants: the "strong" precautionary principle, involving an outright ban on the technological innovation, and the "weak" precautionary principle, involving regulatory constraints on the technological innovation.	This approach is process-oriented and holistic, viewed as an integral part of democratic life, social order and economic prosperity. It includes an innovator's awareness of values and ethics; stakeholder diversity; and societal desirability, acceptability, and sustainability.	There is real value to learning through "trial-and error, resiliency, and ongoing adaptation to technological change."	This approach "aims to stimulate investment in innovation by increasing the confidence of innovation in the regulatory system."

Hemphill, T. A. (2020). The innovation governance dilemma: Alternatives to the precautionary principle. *Technology in Society*, 63, 101381.

Last of all, the **equity** is the principle that should be followed during the transition to the green economy so that all categories of the population might be interested in the change.⁸⁵ A just transition insists that burdens such as high energy costs and the loss of jobs in carbon-intensive sectors do not fall on vulnerable groups in society, including low-income workers. Governments must create conditions that allow social issues and sustainability to be tackled while economic opportunities are advanced relatively to all parties. The principle also involves global disparities, where wealthier nations and

⁸⁵ Cesaretti, G. P., Scarpato, D., Misso, R., Annunziata, A., Borrelli, I. P., Viola, I., & Olleia, A. (2011). Sustainability and Equity in a competitive economy: the "green society" strategy. *Quality-Access to Success*.

communities should assist those with fewer resources in adopting sustainable practices and adapting to the impacts of climate change.

Ecological Factors

The principles that govern ecological governance are on sometimes controversial objectives that seek to govern natural resources and the environment in a sustainable manner. These create the base for organizational frameworks, policies and practices addressing sustainable long-term environmental quality, health and societal welfare/well-being.

The **precautionary approach** postulates preventive measures to a given harm to the environment being executed before the occurrence of the harm.⁸⁶ This principle derives its efficacy from the belief that environmental degradation is usually uncorrectable or takes a very long time to correct once it has occurred. Appearing in the frame of policy-making, the precautionary principle aims to take protective actions when there is scientific doubt about the risks to the environment and health. For instance, banning the use of dangerous substances in production or practicing source control of environmental degradation at certain thresholds without substantial scientific evidence of damage done is in line with the fact that it is less costly and safer to prevent an occurrence of an adverse eventuality than it is to cure or repair the impact.

With the **ecosystem services valuation**, we can measure the cost of the commodity and the functions it serves and complement it by placing an important emphasis on the ecosystem (e.g., agri-money⁸⁷). Ecosystems offer numerous tangible products, including food, water, clean air, and climate regulation for favourable conditions for human existence and wealth in the form of diverse genes, species, and ecosystems. Becoming qualified in economic terms allows governments to think more accurately regarding their allocation of resources and the protection of the environment. It helps change people's attitudes towards nature from seeing it as something that can be used without reserve to something that must be preserved. This information is helpful in sustainable land management, such as the computation of the cost

⁸⁶ Chenet, H., Ryan-Collins, J., & Van Lerven, F. (2021). Finance, climate-change and radical uncertainty: Towards a precautionary approach to financial policy. *Ecological Economics*, 183, 106957.

⁸⁷ Davis, J. (2000). Changing Scene: EU Impact on the Rural Economy. In *Living with the European Union: The Northern Ireland Experience* (pp. 71-93). London: Palgrave Macmillan UK. ; Coffey, P., & Coffey, P. (1996). Reforming Agriculture. *Europe—Toward 2001*, 93-107.

savings in flood control by wetlands or the importance of forests in conserving carbon.

The **intergenerational equity** is another aspect of the ecological approach that guarantees that environmental sustainability is achieved for future generations.⁸⁸ This concept revolves around the inherent duty of the present generation to protect natural resources with minimal depletion. Thus, intergenerational equity entails always making decisions relating to economic profitability while considering the impact it is bound to have on existing ecosystems. It requires proper analysis of the consumption of non-renewable assets, pollution of the environment, and climate change that significantly impacts future generations. Policies in the area of sustainable development with a focus on renewable energy and other adequately used resources are good examples of this noble mission towards ensuring that planet Earth is well preserved in the future.

Next, the **polluter pays principle** (PPP) is an essential aspect of ecological management that ensures that polluters are charged the total costs of polluting the environment and the restoration process.⁸⁹ This principle transfers the cost of damage caused by pollution from society to the polluters and promotes better industrialist and commercial behaviour. By shifting the environmental cost to the units responsible for polluting the environment, units are encouraged to minimize the emission of pollutants, embrace cleaner technology, and comply with the environmental statutes. The polluter pays principle also ensures that governments have all the required capital to fund rectification without necessarily calling on the taxpayers. In practice, the principle is bubbled through carbon taxes, fines for cases of illegal dumping, and legal responsibility for oil spillages and industrial disaster cases. Tan defends in his paper the PPP and states that it is neither immediately unfair (making innocent parties pay – unfairness objection) nor immediately unreasonable

⁸⁸ Chichilnisky, G., Hammond, P. J., & Stern, N. (2020). Fundamental utilitarianism and intergenerational equity with extinction discounting. *Social Choice and Welfare*, 54(2), 397-427. ; Méjean, A., Pottier, A., Fleurbaey, M., & Zuber, S. (2020). Catastrophic climate change, population ethics and intergenerational equity. *Climatic Change*, 163(2), 873-890. ; Thierry, W., Lange, S., Rogelj, J., Schleussner, C. F., Gudmundsson, L., Seneviratne, S. I., ... & Wada, Y. (2021). Intergenerational inequities in exposure to climate extremes. *Science*, 374(6564), 158-160.

⁸⁹ Aragão, A. (2022). Polluter-pays principle. In *Encyclopedia of Contemporary Constitutionalism* (pp. 1-24). Cham: Springer International Publishing. ; Barthakur, A. (2021). Polluter pays principle as the key element to environmental law. *International Journal of Scientific and Research Publications*, 11(3), 274-277.

(in making excusably ignorant parties pay – objection from excusable ignorance) as is commonly noted and is therefore worthy of further consideration as a principle of climate justice.⁹⁰

It is noteworthy that members of the public continue to perform critical functions in enhancing accountability and transparency for environmental decisions. The **public participation** in developing of the formulation, implementation, and monitoring of environmental policies makes it easier to capture feedback from a wider bench.⁹¹ Getting communities to participate in carrying out environmental impact assessments, conservation activities, and local sustainable projects goes a long way in getting those communities to own up to the responsibility of environmental conservation.⁹² It also controls the government and corporations' actions, allowing citizens to express issues with the environment and policies.

A further effective principle of sound environmental administration is the **scientific evidence-based policy**.⁹³ Sound environmental policies require research on which to base their decisions to avoid incongruent data that is detrimental to the environment. The knowledge of various environmental problems and issues like climate change, loss of biological diversity, and pollution, as well as their impact or measures to tackle these issues, are supported by research. Incorporating scientific data in the formulation of policies increases the efficiency of the passed environmental laws. For instance, policies containing climate models and data on emissions of greenhouse gases

⁹⁰ Tan, K. C. (2023). Climate reparations: Why the polluter pays principle is neither unfair nor unreasonable. *Wiley Interdisciplinary Reviews: Climate Change*, 14(4), e827. In the climate justice debate, PPP is often rejected for two reasons. First, so the objection goes, it wrongly burdens present-day individuals because the actions of their predecessors. This is the unfairness objection. The second objection is that early polluters were not aware of the harm that they were doing, and so ought not to be held culpable. This is the objection from excusable ignorance.

⁹¹ Hügel, S., & Davies, A. R. (2020). Public participation, engagement, and climate change adaptation: A review of the research literature. *Wiley Interdisciplinary Reviews: Climate Change*, 11(4), e645. ; Vértessy, L. (2016). The public participation in the drafting of legislation in Hungary. *Int'l Pub. Admin. Rev.*, 14, 115.

⁹² Cattino, M., & Reckien, D. (2021). Does public participation lead to more ambitious and transformative local climate change planning?. *Current opinion in environmental sustainability*, 52, 100-110.

⁹³ Andersen, N. A., & Smith, K. (2022). Evidence-based policy-making. In *De Gruyter handbook of contemporary welfare states* (pp. 29-44). Berlin: De Gruyter. ; Crowley, D. M., Scott, J. T., Long, E. C., Green, L., Israel, A., Supplee, L., ... & Giray, C. (2021). Lawmakers' use of scientific evidence can be improved. *Proceedings of the National Academy of Sciences*, 118(9), e2012955118.

give more conceptual signposting of decreasing climate change and related risks.

For humanity, **continuous improvement** is vital to achieving sustainable environmental performance. This principle, therefore, provides for the dynamic assessment and feedback of the management of environments. Continuous improvement refers to the process undertaken continually by considering policies, technology and practices, aiming to improve their effects on the environment.⁹⁴ It calls for establishing specific, traceable objectives, tracking and reporting performance, and making mid-course corrections with the emergence of new facts and circumstances. Many scholars have found that governments and organisations can continue embracing development and improvement for a sustainable solution to emerging environmental challenges so that it is possible to apply new innovations to achieve the goals. Some measures include increased usage of clean energy technologies, enhanced waste management practices, and enhanced and new legislation to minimize pollution.

Social Factors

The social standards governing stewardship and administration are rooted in many factors, including fairness, cooperation, creativity, and persistence. These are decisive elements in the formation of an efficient society and the achievement of common goals in the present and the future. The drives informing these patterns of social relations offer a context in which governments can bring together otherwise discrepant considerations and engage in practices for the good of all citizens.

The **integration** is one of the factors of considering social, economic, and even environmental matters in policy making. The integration principle bends across these domains, admitting that the changes that occur in any of them will reflect the impact on a remaining section. For instance, economic goals that may include an increase in growth will be seen together with its ill effects, employment, inequality, and exploitation of resources. It results in

⁹⁴ Touriki, F. E., Belhadi, A., Kamble, S., & Benkhati, I. (2022). *Sustainable Excellence in Small and Medium Sized Enterprises: Continuous Improvement Approaches that Matter*. Springer Nature.; Georgiadou, E., Siakas, K., Ross, M., & Rahanu, H. (2022, August). Achieving sustainability: from innovation to valorisation and continuous improvement. In *European Conference on Software Process Improvement* (pp. 763-778). Cham: Springer International Publishing.

better coordinated and integrated governance, sustainable economic development, social justice, and environmental management.

The **long-term perspective** orientation prescribes people's actions to be oriented to the future and their posterity.⁹⁵ Governments need to come up with policies that not only meet the needs of their societies today but also look and think about what the long-term repercussions of those policies may hold. For instance, expenditure on energy from renewable resources and enforcing green buildings signifies first-time outlay; however, they yield extra advantages through power security, conservation of the natural environment, and economic stability. Long-term perspective also ensures that the society left behind for the future generation is rich in resources, opportunities, and, most importantly, a healthy environment for the generation that does not have the luxury of voting in policymakers as laid down the basis of inter-generational equity.

Another component area is **partnership** that focuses on engaging with numerous stakeholder groups, civil society, the private sector (e.g. green entrepreneurship, GE),⁹⁶ academia, and international cooperations.⁹⁷ Despite being at the centre of decision-making and holding broad autonomy, an organization cannot function in isolation, and therefore, the central governance structures also have to involve multiple actors with different propositions, competencies, and resources. Civil society organizations (CSO) or non-governmental organizations (NGO) can offer an understanding of social questions, businesses can bring new ideas and money, while universities can offer knowledge and empirical knowledge.⁹⁸ It opens up new possibilities for im-

⁹⁵ Silva, F., Coward, F., Davies, K., Elliott, S., Jenkins, E., Newton, A. C., ... & Williams, A. (2022). Developing transdisciplinary approaches to sustainability challenges: The need to model socio-environmental systems in the *longue durée*. *Sustainability*, 14(16), 10234.

⁹⁶ Mondal, S., Singh, S., & Gupta, H. (2023). Assessing enablers of green entrepreneurship in circular economy: An integrated approach. *Journal of cleaner production*, 388, 135999. ; Trapp, C. T., & Kanbach, D. K. (2021). Green entrepreneurship and business models: Deriving green technology business model archetypes. *Journal of cleaner production*, 297, 126694.

⁹⁷ De Las Heras, B. P. (2021). The European Green Deal: Policies and Tools for Building a Green Partnership between the EU and Asia Pacific Countries. *Asia-Pacific Journal of EU Studies*, 19(2), 1-11.

⁹⁸ Bertilsson, J. (2023). Organising stakeholder participation in global climate governance: The effects of resource dependency and institutional logics in the green climate fund. *Environmental Values*, 32(5), 555-577. ; Brunner, C., & Marxt, C. (2013). Non-governmental

proved representation and engagement of diverse stakeholders and co-realization of a similarly diverse range of goals, from establishing equity to mitigating poverty, climate change, and technological disruption.

The principle of **efficiency** is underpinned by the utilization of public resources and the delivery of tangible products. Any governmental policy or program of activity must be optimally formulated and performed, significantly when public expectations are growing and financial resources are scarce.⁹⁹ This calls for efficient deployment of public resources, no wastage, and proper working of service delivery. Moreover, it is crucial to measure the outcome, primarily when defining the effectiveness of interventions, because, in terms of the GDP shares, governments need to know how successful specific actions are to adapt them accordingly.

Intimately related to the concept of effectiveness are the issues of **innovation** in the field of public administration also. Innovation means searching for new solutions to social, economic, and environmental problems and enhancing public service delivery. There is increasing pressure on governments to be more creative in embracing growing technological innovation, new models of governance, and problem-solving approaches. Hence, innovation can catalyse changes in the efficiency and responsiveness of public services, including health, education for mobility, and environmental facilities. For instance, recourse to digital tools regarding government services enables the decrease of bureaucracy, the increase of participation involvement, and the optimisation of service delivery. Promoting innovation at public organisations is essential for guaranteeing that society can get the solutions governments promise to provide as the world's complexity rises.

Equity is the principle for which all citizens are required to be given equal treatment in all they do. This factor addresses how the differences between individuals in society should be closed. **Equality strategies** can be seen to mean still efforts to minimise inequities, fight poverty, and grant

organisations (NGO) and businesses in joint product innovation: development of a theoretical framework for 'green' products. *International Journal of Innovation and Sustainable Development*, 7(2), 192-211.

⁹⁹ Mikhno, I., Koval, V., Shvets, G., Garmatiuk, O., & Tamošiūnienė, R. (2021). Green economy in sustainable development and improvement of resource efficiency. ; Pan, K., & He, F. (2022). Does public environmental attention improve green investment efficiency?—Based on the perspective of environmental regulation and environmental responsibility. *Sustainability*, 14(19), 12861.

Fernández-Viñe, M. B., Gomez-Navarro, T., & Capuz-Rizo, S. F. (2013). Assessment of the public administration tools for the improvement of the eco-efficiency of Small and Medium Sized Enterprises. *Journal of Cleaner Production*, 47, 265-273.

equal rights to social necessities, for example; education, health, and shelter, among other things. Equity also implies ensuring that vulnerable and especially disadvantaged groups are left behind during development; for instance, the use of social interventions for fixed-vulnerable groups, non-discrimination, and provision of equal access to common facilities.

Finally, **sustainability** is a crucial factor in ensuring and facilitating the long-term well-being of society and the environment. It focuses on achieving increased economic development without compromising the quality of life of future generations.¹⁰⁰ Economic sustainability policy ensures the maintenance of economic stability; social policy ensures the maintenance of social relations; and environmental policy ensures that a country sustains protective measures to the physical environment. This requires making decisions that do not consume natural resources, affect ecosystems adversely, or create adverse social conditions that may harm future progress. For example, sustainable urban development incorporates landscapes, efficient structures, and transportation systems to improve the standard and living of the existing and future populace.

¹⁰⁰ Ruggerio, C. A. (2021). Sustainability and sustainable development: A review of principles and definitions. *Science of the Total Environment*, 786, 147481. ; Farley, H. M., & Smith, Z. A. (2020). *Sustainability: if it's everything, is it nothing?*. Routledge.

4. Goals and Principles for GPA

After collecting and identifying the key factors, these are ready to formulate the **primary goals** and **guiding principles** of Green Public Administration, providing a framework for sustainable governance. The overview, which outlines the goals of GPA seeks to promote environmental, social, and economic sustainability with regards to effective public administration. The principles of GPA predicate the achievement of these goals through influencing the sustainability practise of al governmental functions and activities. Last of all, we discuss the match of goals and principles, whereby we will show how the goals of sustainable governance are met through its principles' interdependency.



The **reasons** behind the goals and principles are essential for individuals and public and private organizations because they (i) provide direction, motivation, and prioritization for problem-solving, decision and policy making. These standards and guidelines (ii) serve as benchmarks for measuring progress in environmental initiatives; (iii) work together to provide a check list, roadmap for success, and (iv) set a long-term model for society to follow not only improve the quality, the health and the well-being of life for citizens but also the public and of course the planet. Moreover, the linkage of GPA goals with (v) international sustainability frameworks (e.g. UN SDGs) or the

Paris Agreement, strengthens international cooperation on environmental issues. Issues such as climate change and loss of biodiversity are not limited with territorial borders, and since there are common green public administration policies in place, joint effort to solve global problems can be provided. These measures (vi) help reduce the environmental footprint of government (and private) operations; while (vii) employing cost savings and improved resource management conserve public funds, and (viii) keep up the public trust. By integrating them into public administration, governments act as agents in the process of shaping the society to be sustainable in terms of ecological environment, social welfare and economic growth.

4.1. Goals of GPA

Goals	Factors		
	Green	Ecological	Social
Goal 1: Environmental Protection and Sustainability			
	• Reduce greenhouse gas emissions and energy consumption • Conserve and protect natural resources	• Combat pollution and waste • Protect and restore biodiversity • Ensure sustainable water management	• Protect the environment
Goal 2: Climate Resilience			
	• Build resilience to climate change	• Foster ecological resilience	
Goal 3: Social and Economic Well-being			
			• Promote social equity and inclusion • Enhance economic prosperity
Goal 4: Green and Good Governance, Policy			
	• Education, promote environmental awareness and engagement		• Ensure green and good governance • Sustainable public management

In the analysis of the global strategies towards environmental issues, the goals of conservation and stewardship are very important. The first goal focuses on **Environmental Protection and Sustainability** by decreasing greenhouse gases emissions and energy use which are core to averting climate change impact. Reducing emissions or moving on to use efficient systems to generate energy will also reduce emissions and help in making our Earth healthier. Moreover, this goal frowns on the continued depletion and degradation of resource through human activities thus placing a lot of emphasis on the need to protect natural resources. The efficient utilization of such resources for the present as well as the future generations, while at the same time; preserving harmony to the environment is sustainable utilization of resources. The struggle against pollution and waste is another part of Goal 1 as the importance of reducing adverse effects of anthropogenic pollutants on atmosphere, water, and ground is called for. The fight against pollution needs solutions on different levels, starting with proper industrial waste management principles and ending with preventing individual citizens from littering the environment. Likewise preserving and enhancing the features of biological diversity is crucial for sustaining the stability of ecosystems as well as global environmental stability. Basic services today such as air and water purification, food production, all of which are dependent on healthy ecosystems call for their conservation. Last but not the least water resource management is crucial for the survival of human beings as well as for maintenance of biological operates. Conservative water utilization ensures water resources are not exploited, water sources conserved and urges protection of water-based ecosystems in a similar way as other endeavours to conserve the environment at large are encouraged.

Goal 2 concentrates on developing **Climate Resilience**, in other words climate change readiness and ecological system readiness. It is more important than ever to build the resilience not just communities but regions across countries against climate disasters like storms, floods (e.g. countries of the catchment area), and droughts. To have climate resilience one has to put capital in structures, technologies and the policies that minimize harm from climate shocks. Besides, one of the components of ecological resilience is making ecosystems adapt to other conditions than those they currently exist in. When ecosystems are under stress by climate factors, it is possible to maintain or enhance their health through landscape restoration, supporting large-scale conservation programs for species and habitat, and fronting the decline or elimination of deleterious influences on biological units.

The third goal focuses on **Social and Economic Well-being** development and pays much attention to social justice. Environmental sustainability can only be achieved if policies that address the problem are accorded fairness in that it does not burden or favour one segment of society over the other. For several years, various social injustice systems have oppressed low-income people and indigenous societies that experience environmental destruction and climate change. Some of these relate to social equity and includes improving on the above inequalities and ensuring all the social groups are able to engage in sustainable practices. Improving economic development is also one of the key components of this goal, while environmental protection is now aware that it can be combined with economic growth. By working for the green innovations and creating the sustainable industries the opportunities to have the economic profit which will bring the chances to have the success together.

The fourth goal focuses on **Green and Good Governance, Policy** as the two basic strategies of environmental sustainability. Clean and effective governance implies the right and proper procedures which are required in the management of the natural resource and environment. This goal underscores the sustainable public management by making all tiers of government embrace the concept of environmental protection to form part of their decision-making framework. Sustainable development would require awareness and participation and therefore education forms a part of the policies that tend to foster awareness on environmental concerns.¹⁰¹ Thus, developing societies with high level of environmentally related awareness and engagement of people for constant active participation in environmental activities and projects, societies can together contribute to the accomplishment of.

Governments, within **green budgeting** and **green fiscal policy**,¹⁰² understand that **environmental impact assessment (EIA)** has to be taken

¹⁰¹ Carmen-Valentina, R. Ä., Manescu, Ä., Popescu, M. L., & Burlacu, S. (2023). Sustainable Development in Public Administration: Research, Practice, and Education. *European Journal of Sustainable Development*, 12(4), 27-27.

¹⁰² OECD:green budgeting is the use of the tools of budgetary governance to help drive improvements in the alignment of national expenditure and revenue processes with climate and other environmental goals. OECD. (2017). *Paris collaborative on green budgeting*. <https://www.oecd.org/environment/cc/Flyer-Paris-Collaborative-on-Green-Budgeting.pdf>
Bova, E. (2021). Green budgeting practices in the EU: a first review. *European Economy-Discussion Papers*, (140). ; Petrie, M., & Petrie, M. (2021). The evolution of green budgeting. *Environmental Governance and Greening Fiscal Policy: Government Accountability for Environmental Stewardship*, 61-108. ; Darvas, Z. M., & Wolff, G. B. (2021). *A green fiscal pact: climate investment in times of budget consolidation* (No. 18/2021). Bruegel Policy Contribution.

into consideration when making the spending priorities.¹⁰³ Environmental budgeting entails extending environmental controls to appropriations as a way of protecting public funds for environmental-friendly outcomes. When assessing the environmental impact of public expenditures, governments can determine which activities can be adjusted to carry fewer net emissions of carbon dioxide.

Climate, green budgeting, and green fiscal policy

Green Fiscal Policy and Green Budgeting		
- Fiscal strategy - Hybrid tax/regulation - Green Tax and Expenditure Reviews		
	Green Budgeting: Revenues - Impacts of taxes - Green taxes	Green Budgeting: Expenditures - All environmental domains - Positive & (sometimes) negative spending - Green bonds
	Climate Budgeting - Tagging positive spending - International climate financing	

Based on Petrie, M., & Petrie, M. (2021). The evolution of green budgeting. *Environmental Governance and Greening Fiscal Policy: Government Accountability for Environmental Stewardship*, 61-108.

Most nations have begun to outline their long-term strategies for getting **carbon neutrality in public services** by the middle of the century (the Net Zero by 2050 goals).¹⁰⁴ This can be done by shifting to green energy, using minimum energy, implementing carbon offset programs and practices of carbon credits. On the aspect of adaptation, the public administrations have been integrating climate risk into infrastructures for the future. This assists to uncover future risks and prevent them from being worsened by climax of change. The **resilience and adaptation** also require enhancing **climate**

¹⁰³ Partidário, M. R. (Ed.). (2024). *Perspectives on strategic environmental assessment*. CRC Press. ; Glasson, J., & Therivel, R. (2013). *Introduction to environmental impact assessment*. Routledge. ; Morgan, R. K. (2012). Environmental impact assessment: the state of the art. *Impact assessment and project appraisal*, 30(1), 5-14.

¹⁰⁴ Chen, L., Msigwa, G., Yang, M., Osman, A. I., Fawzy, S., Rooney, D. W., & Yap, P. S. (2022). Strategies to achieve a carbon neutral society: a review. *Environmental Chemistry Letters*, 20(4), 2277-2310. ; Huovila, A., Siikavirta, H., Rozado, C. A., Rökman, J., Tuominen, P., Paiho, S., ... & Ylén, P. (2022). Carbon-neutral cities: Critical review of theory and practice. *Journal of Cleaner Production*, 341, 130912. Deutch, J. (2020). Is net zero carbon 2050 possible?. *Joule*, 4(11), 2237-2240. ; Rogelj, J., Geden, O., Cowie, A., & Reisinger, A. (2021). Three ways to improve net-zero emissions targets. *Nature*, 591(7850), 365-368.

risk assessments, disaster risk reduction and emergency response already in place, to manage weather-related disasters such as floods, droughts, heat waves, and similar others. In the context of **sustainable finance**, the public debt securities including the **green bonds** are issued to finance climate change solutions including renewable energy; efficiency of energy systems, and sustainable transport. Besides green bonds, **sustainable finance mechanisms** which can be applicable to public administrations include the following; green loans, green revolving credit facilities, and green guarantees. Policies can be set up in authorities for better utilization of resources such as energy, water, as well as other materials with the purpose of setting up **sustainable resource management (SRM)** rules. This may for instance involve use of energy saving measures in civil operations, like web-based tools, for reduction of papers use and transportation expenditures. Government agencies can also follow **green public procurement (GPP)** policies which focuses on vendor and product choices: those that offer green energy solutions, products that bear the environmental label, or offer low emission technologies.¹⁰⁵ State supported **green credit guidelines** and **green credit policies** for enterprises' low-carbon technological innovation are also an aid.¹⁰⁶

¹⁰⁵ Lăzăroiu, G., Ionescu, L., Uță, C., Hurloiu, I., Andronie, M., & Dijmărescu, I. (2020). Environmentally responsible behavior and sustainability policy adoption in green public procurement. *Sustainability*, 12(5), 2110. ; Krieger, B., & Zipperer, V. (2022). Does green public procurement trigger environmental innovations?. *Research Policy*, 51(6), 104516. ; Rosell, J. (2021). Getting the green light on green public procurement: Macro and meso determinants. *Journal of Cleaner Production*, 279, 123710.

¹⁰⁶ Chen, Z., Zhang, Y., Wang, H., Ouyang, X., & Xie, Y. (2022). Can green credit policy promote low-carbon technology innovation?. *Journal of Cleaner Production*, 359, 132061.

4.2. Principles of GPA

Principles		Factors	
	Green	Ecological	Social
Principle 1: Sustainability and Long-term Thinking			
		• Precautionary approach • Ecosystem services valuation • Intergenerational equity	• Sustainability • Long-term perspective
Principle 2: Equity and Inclusion			
	• Equity • Participation • Integration	• Intergenerational equity • Polluter pays principle • Public participation	
Principle 3: Innovation and Continuous Improvement			
	• Innovation	• Continuous improvement • Scientific evidence-based policy	
Principle 4: Sound Governance and Leadership			
	• Leadership • Accountability • Transparency		• Integration • Innovation • Effectiveness • Partnership

The concept of environmental and social public management should be built on the model that defines the frame for the restoration of the planetary and the social environment and the proper rates of economic development. The first principle of them, named **Sustainability and Long-term Thinking**, stipulates that future has to be taken into account when performing development. The sustainability for the public sector still employs the ground the public policies should foster and enforce meeting the current needs without compromising the capacity for future generations. The long-term character is needed for the decision-making, because it values the preservation of resources and ecosystems in the future. The Intergenerational equity is one of the sub- principles of this principle and it provide that current generations should not deplete resources in a way that they will be hard for the next generations to access. This also encompasses the precautionary principle which was expounded to mean that wherever likely negative effects to the environment and man are possible, an activity should not happen even if science is not sure. Further, placing price on ecosystem services – these are the goods that human society derives from nature which include air, water

and food, set the fact that nature should be considered in each and every economic and policy planning process in the entire world.

The second principle is **Equity and Inclusion** and it focuses on Council's environmental balance, that is advantages and disadvantages should be given to all in equal measure. Equity means all people including the marginalized, poor black people and those in the third world should also gain access to a clean environment and should not suffer the effects of environment degradation. This consists of important component of Intergenerational Equity which future generations will be forced to receive an environment that is worse than the one existence today. And, in the same way that polluter pays principle keeps having meaning, it is logical to make those that pollute the environment answer to the damages caused. It raises accountability and reduces bad events to make certain their incident it is reduced. Nevertheless, there are two overruling criteria that determine fair environmental practices including practice on participation of the public. The people should be in a position to participate in the policy making processes of their environment in a way that guarantees that diversity of methods is embraced in formulation of the policy. Making infiltration – the incorporation of environmental, social, and economical principles into all disciplines – synonymous with sustainability as the basis of all society's progress.

The third principle, the **Innovation and Continuous Improvement** stresses the role of innovation in proactively implementing sustainability. The number of environmental issues in the world increases day by day and hence the need for encouraging innovation so that more improved innovative technology, process, and outcome may be developed to improve on the ecological standing of states. This is because when the societies seek to be made better this means improvement is an ongoing process, or in other words the efforts we put in an attempt to create better sustainable societies should be progressive according to knowledge and technologies. The leadership and policymakers should always ensure any policies mean advanced through research, means data is available to guide the process. This kind of approach is more valuable in ensuring that the strategies that are put in place concerning dispositional environmental concerns are dictionaries and that the strategies that are developed adequately addresses new methods, science and pressures of society.

The fourth principle is **Sound Governance and Leadership** where attention is brought on the public administration in order to attain sustainable solution. Environmental and social questions can only be directed because leaders set the direction for sustainable development. Equally critical is the

question of accountability: Government, companies and other actors, simply must be held to account and made to assume responsibility for their environmental stewardship. It requires that everyone interested is aware of the environmental policies, performance and achievements. It also enhances confidence and enables an interactive participation of informed input into the decisions. Further, it highlighted that effectiveness of governance systems is key to carrying out sustainability strategies and targets. For this, one always requires well defined policies, reasonably effective mechanisms for the policies, and sometimes monitoring and evaluation of the outcomes attained. Lastly, sustainability is a major aspect in the implementation of partnership since the problems of the environment are big and expansive, affecting many processes and systems, for an effective solution to them to be affected, then it must involve the concerted effort of various stakeholders and many parties.

4.3. Correspondences between the GPA Goals and Principles

The four interconnected goals – environmental protection and sustainability, climate resilience, social and economic well-being, green and good governance and policy – form a conceptual map with which to examine the complex problems resulting from environmental and climate change impacts. While the four principles – sustainability and long-term thinking, equity and inclusion, innovation and continuous improvement, and sound governance and leadership – lay down a robust foundation for creating a more sustainable, just, and resilient world. Through incorporating them into policies and practices, societies of the present century will be in a position to steer through the nasty environment and social challenges of the coming century with the social blue print. Here the goals and principles are aligned in that the principles support implementational goals of sustainability. For instance, sustainability and the ability to think long-term applies when addressing risks to environment and embracing climate change while equity and inclusion is used when embracing social and economic development. Innovation sustains appropriate enhancements throughout all goals, and proper governance forms the basis of the accomplishment of policies and measures. These elements together form an organic framework for attaining a sustainable development agenda that is pro-poor and equitable, to achieving GPA in a just and inclusive manner.

Correspondences between the Goals and Principles of GPA

	Principle 1: Sustainability and Long- term Think- ing	Principle 2: Equity and Inclusion	Principle 3: Innovation and Continu- ous Improve- ment	Principle 4: Sound Gov- ernance and Leadership
Goal 1: Environmental Protection and Sustain- ability	X		X	X
Goal 2: Climate Re- silience	X		X	X
Goal 3: Social and Economic Well-being		X	X	X
Goal 4: Green and Good Gov- ernance, Pol- icy	X	X	X	X

Goal 1: Environmental Protection and Sustainability goes hand in hand with **Principle 1: Sustainability and Long-Term Thinking** to further emphasize to protect natural resources and ecosystems for the use of future generations. This argument calls for a long-term perspective from decision-makers on the economic value of ecosystem services so that what is being done today will not hinder the ability of future generations to satisfy their needs. Moreover, the precautionary approach is based on effective measures taken in advance, with respect to any kind of environmental damage, even when science is uncertain. This environmental protection is supported by the **Principle 3: Innovation and Continuous Improvement**. Issues such as pollution, biodiversity losses, and greenhouse gas emissions require innovative solutions if it is to be successfully reduced or eliminated. Continuous improvement is going to make sure that the measures for environmental protection evolve in response to new scientific knowledge and technological advancement, making the efforts dynamic and adaptive. Finally, **Principle 4: Sound Governance and Leadership** creates the right environment in which implementation regarding environmental policies is effectively achieved. This entails accountability and transparency in leadership that ensures enforcement of environmental laws and sustainable management of natural re-

sources. Without solid frameworks of governance, policies aimed at the protection of the environment are hardly likely to be successful or sustainable in the long term.

Principles underpin building **Goal 2: Climate Resilience** by emphasizing sustainability, innovation, and governance. Note that **Principle 1: Sustainability and Long-term Thinking** is quite vital for building resilience to climate change; thus, it readies ecosystems and communities for the long-term effects brought about by changing conditions in climate. This principle ensures that adaptation strategies are sustainable and not mere solutions to immediate risks. Within the context, the most relevant is **Principle 3: Innovation and Continuous Improvement** with respect to climate resilience. Indeed, innovative infrastructure, technologies, and policies are needed in mitigation and adapting to increased frequency and intensification of climate-related events. Evidence-based scientific knowledge leads Continuous Improvement in such a way that policies and practices can be refined as more information about climate risks and solutions becomes available. Add to that, **Principle 4: Sound Governance and Leadership** is a vital ingredient in any undertaking for climate resilience. There is a need for strong leadership in guiding policies to ensure that efforts towards resilience building are upfront. Governance arrangements must ensure accountability and transparency in such a way that investments in climate resilience are suitably communicated and delivered, particularly to the most vulnerable. Good governance ensures and executes that resilience efforts are equitable and reach out to those most vulnerable to the risks associated with climate change.

Goal 3: Social and Economic Well-being promotion aims at **Principle 2: of Equity and Inclusion**. The principle of Social equity secures the fair distribution of the benefits of economic prosperity and environmental sustainability between different groups in society, especially those that have been traditionally oppressed or more vulnerable to environmental degradation. The principle also gives full meaning to the Polluter-Pays Principle by ensuring that those responsible for environmental harm pay costs to redress such harm, and that decision-making processes require active public involvement. Equally important is **Principle 3: Innovation and Continuous Improvement** in promoting economic well-being. The growth and development must be mixed with environmental sustainability, ensuring that such economic activities do not deplete or degrade the nature and natural resources for the maintenance of intergenerational equity. Economic development which does not take into consideration the aspect of sustainability definitely risks undermining future prosperity and health of the environment. Finally, there is the facilitation of **Principle 4: Sound Governance and Leadership**

for economic growth to be balanced with social equity and protection of the environment. This requires transparent and accountable governance to make sure that the feeling of economic prosperity in policy is not gained at the expense of social and environmental well-being. It is here that leadership must navigate these complexities so that growth is sustainable, inclusive, and equitable.

Naturally, **Goal 4: Green and Good Governance and Policy** is in line with all the principles. **Principle 1: Sustainability and Long-term Thinking** and **Principle 2: Equity and Inclusion** are important to ensure governance and policy inclusions. Public participation in decision-making processes helps to integrate various stakeholder perspectives and hence makes policies responsive and equitable to the needs of vulnerable and marginalized communities. Fairness guarantees a just distribution of benefits accruing from environmental governance, and ensures that no group bears an unfair proportion of environmental burdens. The other cornerstone of green and good governance is **Principle 3: Innovation and Continuous Improvement**. Policy-making needs to be responsive to emerging scientific evidence, to allow for continuous improvement of governance structures and processes. Innovation within participatory models and frameworks of governance makes environmental policies more effective and inclusive, thus maintaining their adaptability to emerging challenges. The last one is **Principle 4: of Sound Governance and Leadership**. Basically, good governance ensures full assurance of sustainable management with due policies highly made transparent, accountable, and participatory. Strong leadership is considered to be particularly important to promote environmental education and increase public awareness, inspire public participation in sustainability efforts.

Furthermore, while the concept takes into consideration of the three recommendations defined previously at the working level meeting (leading by example; ensuring that no one is left behind; measuring and following the results), they can be matched with goals, principles and key factors.

Goal and Principle		Key factor
Ensuring that no one is left behind		
Goal 1: Environmental Protection and Sustainability		• Protect and restore biodiversity
Goal 3: Social and Economic Well-being		• Promote social equity and inclusion
Goal 4: Green and Good Governance, Policy		• Education, promote environmental awareness and engagement
Principle 1: Sustainability and Long-term Thinking		• Intergenerational equity
Principle 2: Equity and Inclusion		• Equity • Participation • Integration • Intergenerational equity • Public participation
Principle 4: Sound Governance and Leadership		• Integration • Partnership
Measuring and following the results		
Goal 4: Green and Good Governance, Policy		• Sustainable public management
Principle 1: Sustainability and Long-term Thinking		• Ecosystem services valuation • Long-term perspective
Principle 3: Innovation and Continuous Improvement		• Scientific evidence-based policy
Principle 4: Sound Governance and Leadership		• Effectiveness

For **ensuring that no one is left behind**, the key factors and therefore the goals and principles contain the importance of inclusion, (social and intergenerational) equity, integration, participation, and education. On a broader sense, we also do not leave behind the Nature (protect and restore biodiversity). The **measuring and following the results**, based on the scientific evidence-based policy, effectiveness and long-term perspective, ecosystem services valuation, and sustainable public management.

5. GPA in the EU and Best/Good Practices

The conclusion of the working level meeting declared the importance of leading by example. The European Union actively promotes Green Public Administration through various initiatives and encourages member states to implement sustainable practices. The framework for this is the European Green Deal (EGD), which aims for sustainability by 2050, transforming the EU into a fair and prosperous society with a modern, resource-efficient, and competitive economy. Alongside that, EU member states adopted climate neutrality by 2050; they decided (with legally binding in 2021) to reduce emissions by at least 55% by 2030, compared to 1990 levels. The European Commission helps EU member states design and implement reforms that support the green transition and contribute to achieving these goals. It also fosters the necessary procedures in central and local administrations and establishes the coordination structures for implementing green policies. The Paris Agreement (2015) set ambitious targets for decarbonization and greenhouse gas reductions, prompting countries to enact climate legislation and build structures to manage the energy transition.

The efforts can be categorized by (i) approaches to climate change and environmental protection alongside (ii) governance and financing strategies for sustainability. It also explores the role of (iii) international cooperation and (iv) specific examples from Hungary. In 2023, the Council of Europe, the European Committee on Democracy and Governance (CDDG), published the Report on Green Public Administration, which included and collected quite a few best and good practices, contributing to this chapter.

5.1. Climate Change and Environmental Protection

Efforts to **tackle climate change** increasingly focus on laws, net zero policies, and sustainability strategies across various jurisdictions. Climate litigation also serves as a tool to expedite or hinder ambitious climate policies, with over sixty European cases reaching the **Court of Justice** of the European Union (CJEU).¹⁰⁷ However, **Germany's 2019 climate law** faced scrutiny as the Federal Constitutional Court ruled parts unconstitutional for inadequately protecting future generations, introducing a principle of generational equity. The **UK's** recent Department for Energy Security & Net Zero creation demonstrates a national commitment to energy efficiency and green industry leadership.¹⁰⁸ **Slovenia** highlights the need for environmental policy integration with agriculture, transport, and tourism. The **Flemish** Local Energy and Climate Pact, with nearly 300 municipalities, focuses on urban greening, energy efficiency, sustainable mobility, and water management, engaging stakeholders in climate dialogues.¹⁰⁹ **Finland's** Hinku network has successfully involved municipalities and other stakeholders in creating emissions-reduction solutions,¹¹⁰ with projects like Circwaste facilitating municipal circular economy efforts.¹¹¹ The international organisation of **Local Governments for Sustainability** (ICLEI) Local Green Deals initiative further demonstrates the push toward local sustainability with four principles: governance, partnership, integrated goals, and action. Several EU member states, like **Sweden** and **Austria**, organize national **Green Week** events with activities and initiatives tailored to their contexts.

Regarding **biodiversity protection** and pollution mitigation, countries have prioritized reducing pollution, managing waste, securing clean water, and protecting biodiversity. Environmental integration in policy remains challenging, as conflicting interests arise across policy areas; it is easy to find in the European Commission's **Environmental Implementation Review**

¹⁰⁷ Higham, C., Setzer, J., Narulla, H., & Bradeen, E. (2023). *Climate change law in Europe*. The Centre for Climate Change Economics and Policy (CCCEP) and The Grantham Research Institute on Climate Change and the Environment

¹⁰⁸ <https://www.gov.uk/government/organisations/department-for-energy-security-and-net-zero/about>

¹⁰⁹ https://www.climate-chance.org/wp-content/uploads/2022/04/bt2022_cas-detude_belgique_flandre_eng.pdf

¹¹⁰ <https://hiilineutraalisuomi.fi/en-US/Hinku>

¹¹¹ [https://www.materiaalitkiertoon.fi/en-US/Current/New_ideas_from_circular_economy_audits_f\(57644\)](https://www.materiaalitkiertoon.fi/en-US/Current/New_ideas_from_circular_economy_audits_f(57644)) and <https://kestavyysloikka.ymparisto.fi/en/>

(EIR) for the 27 EU countries.¹¹² **Italy**, for instance, merged environmental responsibilities with energy policy under the Ministry of Ecological Transition, emphasizing policy coherence and sustainability. Local initiatives often effectively address interconnected environmental issues, creating narratives emphasizing citizen benefits.¹¹³ Tallinn, **Estonia**, exemplifies this holistic approach, earning recognition as the 2023 European Green Capital.¹¹⁴

5.2. Governance and Finance in Sustainability

Given that public procurement constitutes about 13-20% of global GDP, green criteria in purchasing decisions can significantly impact environmental goals.¹¹⁵ The Stockholm Environment Institute estimates that 15% of global emissions stem from government purchases.¹¹⁶ The **Netherlands, Belgium, Greece, Slovenia, Germany, Lithuania, Latvia**, and other EU nations have adopted **Green Public Procurement (GPP)** measures, with the European Commission offering guidelines to assist national and regional bodies in implementing voluntary GPP criteria.¹¹⁷ The **OECD** provides frameworks on GPP best practices in the *Going Green: Best Practices for Public Procurement* publication, covering legal frameworks, market capacity, environmental standards, professionalization, and monitoring.¹¹⁸

¹¹² https://environment.ec.europa.eu/law-and-governance/environmental-implementation-review_en

¹¹³ EIR country report Italy 2022. https://eur-lex.europa.eu/legalcontent/EN/TXT/?uri=com-nat%3ASWD_2022_0275_FIN

¹¹⁴ https://environment.ec.europa.eu/news/tallinn-starts-2023-european-green-capital-2023-01-20_en

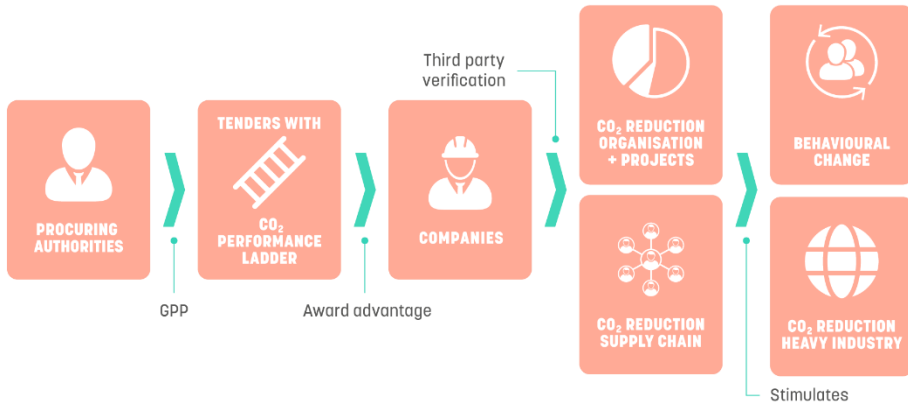
¹¹⁵ <https://www.worldbank.org/en/news/feature/2020/03/23/global-public-procurement-database-share-compare-improve>

¹¹⁶ Nilsson Lewis, A., Kaaret, K., Torres Morales, E., Piirsalu, E., Axelsson, K. (2023). *Green Public Procurement: a key to decarbonizing construction and road transport in the EU*. Stockholm Environment Institute. <https://doi.org/10.51414/sei2023.007>

¹¹⁷ https://green-business.ec.europa.eu/green-public-procurement/gpp-criteria-and-requirements_en

¹¹⁸ <https://www.oecd.org/en/topics/public-procurement.html> ; https://www.oecd.org/gov/public-procurement/Going_Green_Best_Practices_for_Sustainable_Procurement.pdf ; https://www3.weforum.org/docs/WEF_Green_Public_Procurement_2022.pdf

CO₂ Performance Ladder (CO2PL)

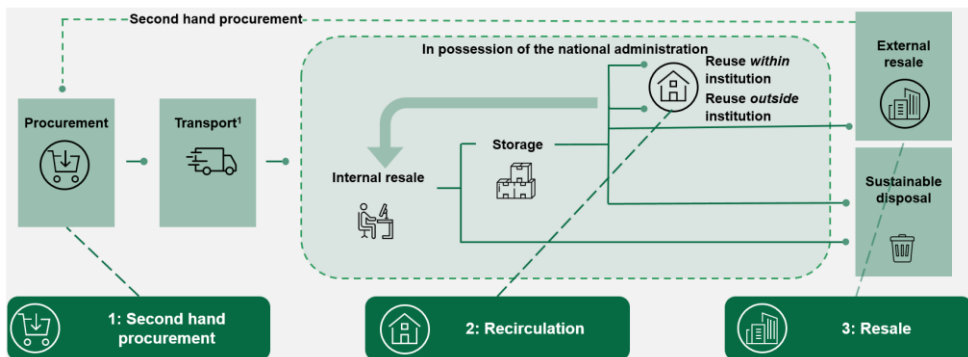


<https://www.co2-prestatieladder.nl/en/co2-performance-ladder-europe>

The **Netherlands** introduced the CO₂ Performance Ladder in 2021, an effective procurement tool that uses the ‘Power of Procurement’ to stimulate structural decarbonization and is rewarded with an award (financial) advantage for the bidding companies. **Denmark's** furniture reuse platform taps into three different CO₂ and cost-saving potentials.

Furniture Reuse Platform

Platform model



Kursch, Maria Møller (2024). Reducing Carbon emission from public procurement - Furniture Reuse Platform. Agency for Public Finance Management, Denmark

The **Netherlands** also has a comprehensive concept on Sustainable Public Administration with six priority areas: (i) IT: lifecycle management, datacenter efficiency, sustainable hardware; (ii) Buildings: energy reduction, circular construction, maintenance; (iii) Facilities: reducing waste, climate-friendly corporate catering; (iv) Mobility: reduction of business travels, zero-emission car fleet; (v) HR: social return jobs, sustainable international

production chains; (vi) Procurement: sustainable procurement, circular category management. They do not use one definition for greening or becoming more sustainable. Per domain, goals are set and combined to form an optimal definition for that domain.¹¹⁹ **France** has a mandatory GPP policy requiring all public authorities to include environmental criteria in at least 50% of their procurement budgets. **Lithuania**, for instance, adopted an open-data approach to enhance transparency and public awareness. **Latvia** has mandatory and voluntary GPP requirements for certain product categories, with plans to expand to construction and transport. **Slovenia's** GPP framework mandates eco-friendly purchasing across 22 categories. At local levels, cities like **Copenhagen** and **Strasbourg** have implemented GPP networks to share knowledge and encourage sustainable procurement. Furthermore, Copenhagen has a comprehensive Climate Plan outlining ambitious goals and concrete actions to become carbon neutral by 2025. The Flanders government in **Belgium** also supports innovative public procurement. Although GPP can entail higher initial costs, these may be offset by lower lifecycle expenses, thus making green products financially viable in the long term. Both ex-ante and ex-post **impact assessments** guide sustainable decision-making on large projects. These assessments allow governments to foresee environmental consequences and make informed policy adjustments. **Greece** and **Ukraine** have legislation requiring environmental evaluations for new projects, and **Luxembourg** is developing a “sustainability check” for draft laws to complement its Regulatory Impact Assessment (RIA) system.¹²⁰

Stakeholder involvement is vital in driving green initiatives within **participation and leadership**, as climate-related policies are sometimes contentious. From deliberative democracy, countries like **Ireland**, **France**, and the **UK (Scotland)** have held citizens' assemblies to build public support for climate action. In **Poland**, environmental organizations can participate in administrative proceedings,¹²¹ while the **Czech Republic** has engaged citizens through questionnaires on climate policy. Multi-stakeholder platforms can foster consensus, making policy implementation more feasible.

The **environmental management** to green public administration causes many institutions to rethink their operations to reduce the ecological

¹¹⁹ van As, M., Hulzebosch, M. (2024). *Sustainable Public Administration- The Netherlands*. Ministry of the Interior and Kingdom Relations.

¹²⁰ <https://www.oecd-ilibrary.org/sites/a647f0e5-en/index.html?itemId=/content/component/a647f0e5-en> OECD Environmental Performance Reviews: Luxembourg 2020

¹²¹ Art. 31 of the Code of Administrative Procedure

footprint. The **EU's Joint Research Centre** outlines strategies for sustainable office management, meeting practices, commuting, and procurement.¹²² For example, the **Greek** government promotes renewable energy and electric vehicle use, while **Latvia** constructed a zero-energy library in Ogre. Although beneficial for efficiency, digitalization also has environmental impacts that require further exploration. The **Finnish** Ministry of Finance published a Strategy on Climate and Nature in 2022, prepared through a stakeholder consultation.¹²³

The effective GPA demands a culture shift within the **incentives and innovation**, where sustainability is embedded in public institutions' goals. **France's** green budgeting system categorizes budget lines by environmental impact, aiding in holistic sustainability planning.¹²⁴ Fiscal tools like taxes can further support environmental spending, especially at the local level. In **Iceland**, a toolkit has been created to assist municipalities in developing action-oriented climate policies.¹²⁵ In the **United Kingdom**, the West Midlands implemented a framework for inclusive growth that emphasizes collaboration between municipalities, leveraging economies of scale, and encouraging public participation. The mayor of Trojanovice in the **Czech Republic** launched a podcast called "mayor", inviting experts to discuss topics such as energy communities, multi-generational city planning, and digitalization challenges. COVID-19 has spurred telework adoption in public sectors, proving beneficial for employees and the environment when implemented with adequate support. In Tallinn, **Estonia**, a temporary "pop-up park" has gained popularity, with residents pushing to make it permanent, showing community support for green initiatives.¹²⁶

The **European Public Sector Award** of the European Institute of Public Administration includes a category for Green Public Administration, which recognizes projects that directly tackle climate change, energy, and sustainability challenges.¹²⁷ Eligible projects focus on reducing emissions

¹²² Canfora, P., Antonopoulos, I., Dri, M., Gaudillat, P., & Schoenberger, H. (2019). Best environmental management practice for the public administration sector. *Luxembourg, Publications Office of the European Union*.

¹²³ https://vm.fi/-/ilmasto-ja-luontostrategia?languageId=en_US

¹²⁴ <https://www.oecd.org/coronavirus/policy-responses/green-budgeting-and-tax-policy-tools-to-support-a-green-recovery-bd02ea23/>

¹²⁵ <https://loftslagsstefna.is/sveitarfelog/> ; <https://www.coe.int/en/web/good-governance/-/good-democratic-governance-goes-green>

¹²⁶ <https://www.sustaineurope.com/tallinn-european-green-capital-2023-20230925.html>

¹²⁷ <https://www.eipa.eu/epsa-green-public-administration/>

and pollutants, minimizing resource use, promoting efficient resource management—including recycling and waste reduction—and mitigating the impacts of pollution. The EU promotes using the **Energy Performance of Buildings Directive (EPBD)**, which requires member states to set minimum energy performance standards for new and existing buildings.¹²⁸ The directive contributes to the objective of reducing GHG emissions by at least 60% in the building sector by 2030 compared to 2015 and achieving a decarbonised, zero-emission building stock by 2050.¹²⁹ The Netherlands has a frontrunner approach, exceeding EPBD requirements by requiring all new buildings to be nearly energy-neutral by 2021.

5.3. International cooperation

Cross-border cooperation (CBC) is crucial for addressing shared environmental and climate challenges that do not recognize borders. Different countries have varied capacities to tackle these issues, making collaboration essential. The Centre of Expertise for Good Governance (CEGG) has produced a toolkit dedicated to CBC and runs several projects in this field in several member states. The Resilience Building Strategies (ReBus) toolkit is a resource for local authorities to build resilience in face of environmental challenges.¹³⁰ Financial products are increasingly marketed as "green," though greenwashing remains a concern, requiring sound standards. The Council of Europe and the EU have developed legal and financial frameworks, such as the **Madrid Convention**, to facilitate CBC between border communities.¹³¹ The Council of Europe's EDEN platform for cross-border cooperation can also be mentioned.¹³² The EU supports the **European Green Week**, an annual event promoting environmental action and raising public

¹²⁸ Directive (EU) 2024/1275 of the European Parliament and of the Council of 24 April 2024 on the energy performance of buildings

¹²⁹ European Commission (2024). *Energy Performance of Buildings Directive* https://energy.ec.europa.eu/topics/energy-efficiency/energy-efficient-buildings/energy-performance-buildings-directive_en

¹³⁰ <https://rm.coe.int/rebus-resilience-building-strategies-toolkit-/1680a17990&ved=2ahUKEwjWwbDztrWJAX-WCnf0HHdb1BdwQFnoECBMQAAQ&usq=AOvVaw0Dm7ACPt7gLmCZNUJXJFxz>

¹³¹ European Outline Convention on Transfrontier Co-operation between Territorial Communities or Authorities (ETS No. 106) <https://www.coe.int/en/web/conventions/full-list?module=treaty-detail&treatynum=106>

¹³² <https://edenplatform.org/>

awareness on sustainability issues.¹³³ Another initiation from the Union is the **EU Strategy on Adaptation to Climate Change**, a framework for member states to develop national adaptation strategies.¹³⁴

Despite challenges stemming from historical conflicts and cultural differences, successful cases exist, like the 30-year collaboration among **Finland, Norway, and Russia** around the Pasvik River. While Russian involvement ceased due to recent conflicts, Norway and Finland continue their efforts with a structured action plan.

Recent reports, such as *Adaptation Without Borders* (The Global Transboundary Climate Risk Report, 2023),¹³⁵ highlight the importance of understanding transboundary climate risks, particularly as they often impact the poorest and most vulnerable populations. Decision-makers are encouraged to link climate and security risks to devise effective responses.

5.4. Good Practices from Hungary

Greening public administration highlights the multifaceted role of government offices in promoting sustainability and reducing ecological footprint. The three key areas are (i) the social responsibility of government offices, (ii) internal measures to reduce environmental impact, and (iii) the sharing of good practices across various government offices.

Social Role and Responsibility of the Government Office. Government offices set the pace in promoting sustainable practices by displaying good examples. One of the major activities will be promoting green public administration by integrating environmentally sustainable measures in the activities and programmes interacting with the public. For example, in Csongrád-Csanád County, the programs for collecting electronic wastes at people's homes solve environmental degradation problems and serve as a form of raising awareness among the people. Another is the clearance of abandoned cars linked to illegal activities, such as human smuggling and trafficking along Hungary's southern border — environmental and personal security benefits. In addition, in recent years, the government has held round

¹³³ https://green-week.event.europa.eu/index_en

¹³⁴ https://climate.ec.europa.eu/eu-action/adaptation-climate-change/eu-adaptation-strategy_en

¹³⁵ Anisimov, A., & Magnan, A. K. (2023). The global transboundary climate risk report 2023.

table debate concerning animal rights and the connection between ecological and ethical problems. Relations with communities are also essential. Officers have also performed different public activities like SZIN summer festival in Szeged, KTN summer festival in Csongrad and Farmer Day celebration in Hódmezővásárhely, while the government has also insisted on conducting SUMMER CAMPS for disadvantaged children. Such a purpose is achieved through organization of activities aimed at raising the level of environmental consciousness among citizens and promoting sustainable behaviour.

Internal measures. Internal actions that help in minimizing the organization's influence on the environment. Such efforts are focused on **infrastructure-related measures**. Such best practices are green procurement and energy reduction investment projects that are financed from national and EU sources. The government is also paying concerted attention to enhancing and maintaining green areas in its buildings, applying real estate energy meters and centralized control of Printing devices to reduce waste. Changes for renewable energy initiated by the company's activities include placing solar panels and geothermal systems, acquiring electric vehicles and bicycles, installing indoor and outdoor cycle storage, and using cycle courier services for internal mail delivery. The measures aimed at improving fuel consumption further enhance the environmental efficiency of government operations. The **human resource-related measures** support this infrastructure investment. An essential goal is to increase employees' environmental concerns through programs such as selective waste collection and a health program that promotes cycling or walking to work. Other visibility activities include articles on environmental awareness in the office newsletter, the shape of reusable cups used to encourage its use, and other campaigns that the social responsible department organizes, including World Water Day's drawing competition and "Clean up Your Neighborhood" – voluntary waste collection campaign.

Practices from other government offices. It also gave a chance to disseminate information on other offices that have adopted best practices in the other provinces of Hungary. For instance, the Government Office of Bács-Kiskun County engages and encourages families' participation in sustainability projects via "the Week of the Families" summer camp. The Government Office of Győr-Moson-Sopron County has installed a branch shredder to create mulch and maintain local greenery. In Jász-Nagykun-Szolnok County, the "Save the Bats" program also seeks to support conservation projects concerning biological diversity. The Health Education Evidence Camp for the children ministrative workers of the Government Office of Komárom-

Esztergom County has been created and contains information oriented towards health and environmental affairs. Other sustainable activities include introducing charging stations for electric vehicles by the Government Office of Pest County; a clothes collection and reuse program introduced by the Government Office of Somogy County to minimise clothing waste. These examples demonstrate the wide variety of activities undertaken by government offices throughout the nation to integrate sustainability into practice.

In light of European experiences, several key **intervention areas** can be identified to reduce the environmental impact of capital and county government offices.

Workplace, Material Management, and Equipment. Improving energy consumption is important for government buildings in terms of lighting, energy sources, heating, and cooling. Renewable energy sources for conventional electricity and installing smart energy systems are core sustainability strategies. Also, the criteria developed for the green procurement case enable restricting emissions, waste, paper, and water usage. Banishing environmentally unfriendly products and materials with a single utility are indispensable parts of effective materials management. The utilization of operational equipment also advances the tenets of the circular economy.

Optimizing Travel. Avoiding travel for business also has a powerful impact on the reduction of environmental impacts. Fewer business trips mean fewer people are traveling, which means less carbon emission through teleworking or online meetings. Subsidizing public transport for employees, introducing bonuses, and ‘green’ means of performing work by prioritizing public transport for employees, issuing transportation bonuses, and installing bicycle stands encourage using environmentally friendly transport options.

Green Human Resource Management. The other important aspects towards sustainability include what is referred to as green human resource management.¹³⁶ In the case of employee acquisition, specific emphasis should be placed on ‘green people’ recruitment and on creating credible images of green initiatives. Reward systems should be tied to sustainability objectives, and extra green benefits for staff (such as transport support) must be offered where possible (e.g.,) because this is a significant factor in developing a green work culture. It is necessary to point to training and development activities to improve people’s ecological sensitivity and expertise and train

¹³⁶ Veerasamy, U., Joseph, M. S., & Parayitam, S. (2024). Green human resource management and employee green behaviour: participation and involvement, and training and development as moderators. *South Asian Journal of Human Resources Management*, 11(2), 277-309.

in new green products and processes. Further, greening the catering services, bike-supporting services like rental services, P+R parking lots, showers, the formation of recreation- and interaction places in green areas belong to green HR management. Sustainable behavior on the part of leaders and subordinates who are organization members is central to creating a sustainable culture in organisations. This call entails creating green cadres, where organizational members set positive examples, and linking executives' performance to sustainable organizational goals. What is more, the expectations and priorities for leaders need to be brought up to a level where the aspects of environment are considered equally important as any other factor. Employee engagement is just as crucial as well. Employee participation and incorporating their suggestions, innovation and skills helps in using everyone towards the sustainability agenda. Other ways of creating awareness of sustainability within the organization include; Creating Green Teams and appointing Green Champions.

Implementing Green Digital Tools and Services. Another meaningful process that can contribute to sustainable functioning is using tools and technologies. Electronic signatures and/or digital documents and document management systems afford the benefits of decreased paper utilization besides increasing office efficiency. Also, the electronic green procurement systems and applications that support energy savings, sustainable procurement, and more green operation are helpful to improve the environmental performance of government offices.

6. Reflects on other concepts and approaches

This chapter collects how the presented goals and principles for GPA match other international concepts and frameworks. More so, it looks at the correlation with the United Nations Sustainable Development Goals (UN SDGs); the European Commission Technical Support Instrument (EU/EC - TSI); and the European Institute of Public Administration European Public Sector Award (EIPA - EPSA). Further, it considers the findings of the European public administration country reports, which include valuable overviews of how sustainability has been integrated into various governance systems. These further frameworks provide an opportunity to gain a systemic understanding of the correspondence between public administration activities on the ground and international sustainable development goals.

6.1. UN SDGs

Concerning green(ing) public administration, policies provide direction for achieving objectives and delivering services, while governance enables implementation. The UN Sustainable Development Goals (SDGs) for 2030 offer a comprehensive framework for addressing green and social challenges and the economic means to achieve these goals. The SDGs include both policy and governance goals. SDGs 1-15 are primarily policy goals, encompassing one goal on climate action (SDG 13) and two on biodiversity (SDGs 14 and 15). Goals 16 and 17 focus on governance, with SDG 16 emphasizing the rule of law and quality public institutions as essential for democracy. SDG 17 addresses the means of implementation, including policy coherence, technology, and finance, highlighting the need for a fair and just transition to sustainability. The policy goals can be divided into three dimensions of sustainable development: environment, social, and economic. The environment serves as the foundation, representing the planetary boundaries necessary to prevent disasters. The economy is key to achieving the SDGs, while human well-being represents the ultimate social goal. Governance Goals 16 and 17 enable coherence and consistency across all three levels.

SDGs in six categories according to human needs

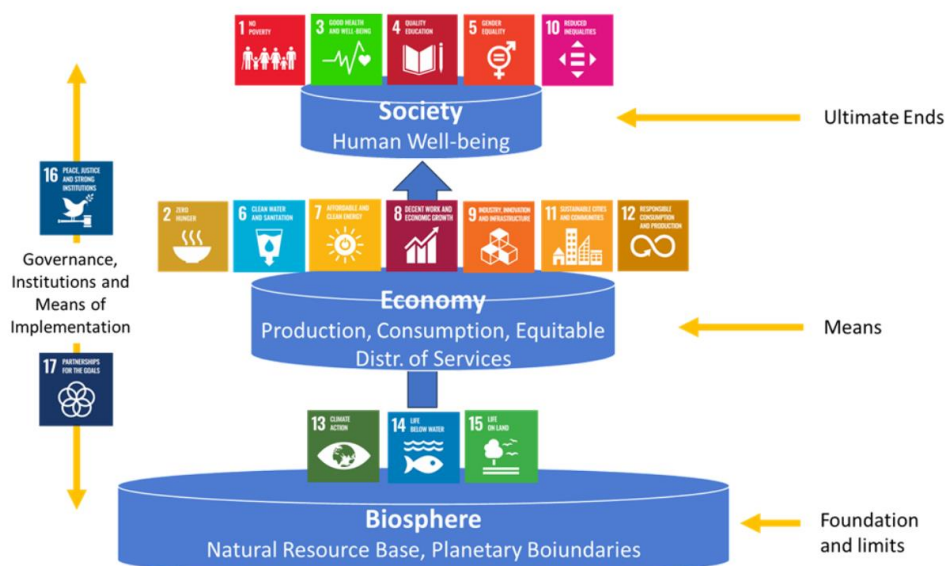
Social			
Equity		Social Development	
Goal 4	Quality education	Goal 11	Sustainable cities and communities
Goal 5	Gender equality	Goal 16	Peace justice and strong institutions
Goal 10	Reduced inequalities	Goal 17	Partnerships for the goals
Economic			
Life		Economic and Technological development	
Goal 1	No poverty	Goal 8	Decent work and economic growth
Goal 2	Zero hunger	Goal 9	Industry, innovation, and infrastructure
Goal 3	Good health and well-being		
Environmental			
Resources		Environments	
Goal 6	Clean water and sanitation	Goal 13	Climate action
Goal 7	Affordable and clean energy	Goal 15	Life on land
Goal 12	Responsible consumption and production		
Goal 14	Life below water		

Kang, H., & Kim, J. (2022). Analyzing and visualizing text information in corporate sustainability reports using natural language processing methods. *Applied Sciences*, 12(11), 5614.

The mid-term review of the SDGs at the September 2023 UN Summit revealed that progress on most goals is lagging, with the environmental SDGs at risk of worsening. A cascade of environmental and other crises in recent years has made public administration's role more complex and urgent. Some crises, like climate change, are "wicked" problems—difficult to define, non-linear, and seemingly unsolvable. Their complexity requires collaborative efforts, as no single country or public sector organization can address them alone.¹³⁷

¹³⁷ See <https://publicadministration.un.org/en/Home/Blog> Can crisis governance drive out the capacity for complexity governance? By Louis Meuleman, Vice-Chair of the UN Committee of Experts on Public Administration (CEPA) and Visiting Professor at Public Governance Institute, KU Leuven University, Belgium

Hierarchy of Goals: foundation, means and ends



PBL. 2018. 'Using Planetary Boundaries to Support National Implementation of EnvironmentRelated Sustainable Development Goals'. *PBL Planbureau voor de Leefomgeving*. <https://www.pbl.nl/en/publications/using-planetary-boundaries-to-support-nationalimplementation-of-environment-related-sustainable-development-goals>

Targets and indicators for each SDG / Goal 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. The indicator system is well elaborated and can be a useful benchmark for measuring the goals and principles of GPA.

Targets (2030 Agenda for Sustainable Development)	Indicators (versions from 2020)	UNSD Indicator Codes
16.1 Significantly reduce all forms of violence and related death rates everywhere	16.1.1 Number of victims of intentional homicide per 100,000 population, by sex and age	C160101
	16.1.2 Conflict-related deaths per 100,000 population, by sex, age and cause	C160102
	16.1.3 Proportion of population subjected to (a) physical violence, (b) psychological violence and (c) sexual violence in the previous 12 months	C160103
	16.1.4 Proportion of population that feel safe walking alone around the area they live	C160104
16.2 End abuse, exploitation, trafficking and all forms of violence	16.2.1 Proportion of children aged 1–17 years who experienced any physical punishment and/or psychological aggression by caregivers in the past month	C160201

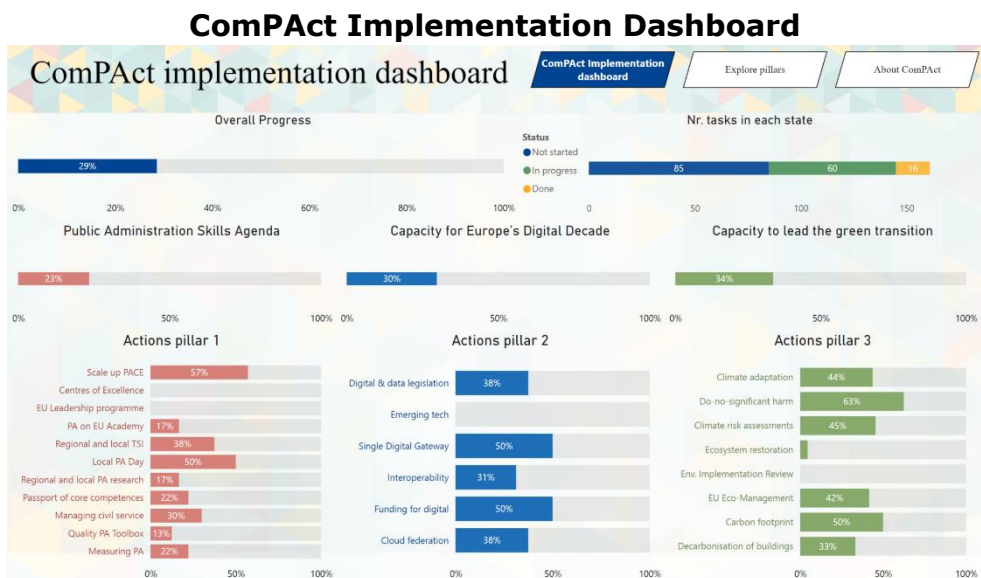
against and torture of children	16.2.2 Number of victims of human trafficking per 100,000 population, by sex, age and form of exploitation	C160202
	16.2.3 Proportion of young women and men aged 18–29 years who experienced sexual violence by age 18	C160203
16.3 Promote the rule of law at the national and international levels and ensure equal access to justice for all	16.3.1 Proportion of victims of violence in the previous 12 months who reported their victimization to competent authorities or other officially recognized conflict resolution mechanisms	C160301
	16.3.2 Unsensitized detainees as a proportion of overall prison population	C160302
	16.3.3 Proportion of the population who have experienced a dispute in the past two years and who accessed a formal or informal dispute resolution mechanism, by type of mechanism	C160303
16.4 By 2030, significantly reduce illicit financial and arms flows, strengthen the recovery and return of stolen assets and combat all forms of organized crime	16.4.1 Total value of inward and outward illicit financial flows (in current United States dollars)	C160401
	16.4.2 Proportion of seized, found or surrendered arms whose illicit origin or context has been traced or established by a competent authority in line with international instruments	C160402
16.5 Substantially reduce corruption and bribery in all their forms	16.5.1 Proportion of persons who had at least one contact with a public official and who paid a bribe to a public official, or were asked for a bribe by those public officials, during the previous 12 months	C160501
	16.5.2 Proportion of businesses that had at least one contact with a public official and that paid a bribe to a public official, or were asked for a bribe by those public officials during the previous 12 months	C160502
16.6 Develop effective, accountable and transparent institutions at all levels	16.6.1 Primary government expenditures as a proportion of original approved budget, by sector (or by budget codes or similar)	C160601
	16.6.2 Proportion of population satisfied with their last experience of public services	C160602
16.7 Ensure responsive, inclusive, participatory and representative decision-making at all levels	16.7.1 Proportions of positions in national and local institutions, including (a) the legislatures; (b) the public service; and (c) the judiciary, compared to national distributions, by sex, age, persons with disabilities and population groups	C160701
	16.7.2 Proportion of population who believe decision-making is inclusive and responsive, by sex, age, disability and population group	C160702
16.8 Broaden and strengthen the participation of developing countries in the institutions of global governance	16.8.1 Proportion of members and voting rights of developing countries in international organizations	C200205
16.9 By 2030, provide legal identity	16.9.1 Proportion of children under 5 years of age whose births have been registered with a civil authority, by age	C160901

for all, including birth registration		
16.10 Ensure public access to information and protect fundamental freedoms, in accordance with national legislation and international agreements	16.10.1 Number of verified cases of killing, kidnapping, enforced disappearance, arbitrary detention and torture of journalists, associated media personnel, trade unionists and human rights advocates in the previous 12 months	C161001
	16.10.2 Number of countries that adopt and implement constitutional, statutory and/or policy guarantees for public access to information	C161002
16.a Strengthen relevant national institutions, including through international cooperation, for building capacity at all levels, in particular in developing countries, to prevent violence and combat terrorism and crime	16.a.1 Existence of independent national human rights institutions in compliance with the Paris Principles	C160a01
16.b Promote and enforce non-discriminatory laws and policies for sustainable development	16.b.1 Proportion of population reporting having personally felt discriminated against or harassed in the previous 12 months on the basis of a ground of discrimination prohibited under international human rights law	C200204

6.2. EU/EC ComPAct and TSI

The European Commission put a Communication, a set of actions (ComPAct) with three pillars:¹³⁸

- Pillar 1. The Public Administration Skills Agenda, Foster administrative cooperation between public administrations at all levels to help develop their workforces for current and future challenges;
- Pillar 2. Capacity for Europe's Digital Decade, Strengthen the capacity of public administrations for their digital transformation;
- Pillar 3. Capacity to lead the green transition, Strengthen the capacity of public administrations to lead the green transition, and build resilience.



https://reform-support.ec.europa.eu/public-administration-and-governance-coordination/enhancing-european-administrative-space-compact_en

Within the 2025 Flagship Technical Support Project, Technical Support Instrument, the ComPAct – **Pillar 3 - Greening Public Administration** deals with ecological transformation. This flagship initiative aims to help

¹³⁸ Communication from the Commission to the European Parliament, The Council, the European Economic and Social Committee and the Committee of the Regions Enhancing the European Administrative Space (ComPAct) COM/2023/667 final

public administrations in EU Member States reduce their environmental footprint by adopting green-focused governance, budgeting, investment, and procurement practices across all government levels.¹³⁹ Key measures include (i) promoting and overcoming institutional fragmentation or silos (whole-of-government and multi-level governance approaches, cross-sector collaboration and arbitration in policy design), (ii) greening asset and investment management, (iii) integrating and implementing green Public Financial Management (PFM) reforms,¹⁴⁰ such as green budgeting¹⁴¹ and the “Do No Significant Harm” principle;¹⁴² finally (iv) ensuring sustainable green public procurement practices centered on life-cycle costs and contractor adaptation.¹⁴³

Policy areas		
Green transition	Health and long-term care	Digital transition
Skills, education and training	Public administration and governance	Competitiveness
Financial sector and access to finance	Revenue administration and public financial management	Labour market, social protection and migration

https://reform-support.ec.europa.eu/what-we-do_en

Public administrations are crucial for guiding economies and societies to integrate green policies across all sectors. This includes adopting green financing policies, such as sustainable taxation, public procurement, and investment practices, as well as supporting ecosystem health and nature-based

¹³⁹ 2025 Flagship Technical Support Project, ComPAct - Pillar III - Greening Public Administration. https://reform-support.ec.europa.eu/our-projects/flagship-technical-support-projects/tsi-2025-flagship-compact-pillar-iii-greening-public-administration_en

¹⁴⁰ Gonguet, M. F., Wendling, M. C. P., Sakrak, O. A., & Battersby, B. (2021). *Climate-Sensitive Management of Public Finances—“ Green PFM”*. International Monetary Fund.

¹⁴¹ https://economy-finance.ec.europa.eu/economic-and-fiscal-governance/green-budgeting-eu_en

¹⁴² Gupta, J., & Schmeier, S. (2020). Future proofing the principle of no significant harm. *International Environmental Agreements: Politics, Law and Economics*, 20, 731-747. ; Lee, S. H. (2022). “Do No Significant Harm” as a Core Principle in Sustainable Finance Regulation in the ASEAN Draft and Singapore Taxonomies. *Journal of International and Area Studies*, 29(1), 21-38.

¹⁴³ https://single-market-economy.ec.europa.eu/single-market/public-procurement/strategic-procurement/green-public-procurement_en

solutions. Administrations should also build capacity at all governance levels to implement green reforms effectively. Actions under **Pillar 3** will focus on capacity-building measures, including:

- **Shaping the Green Transition:** The EU Commission supports Member States in updating Climate Adaptation Strategies, implementing the "do-no-significant harm" principle, and developing tools for green public budgeting and climate risk assessments.
- **Promoting Greening of Public Administration:** Public administrations must lead by example by adopting sustainable practices, such as energy-efficient buildings, resource management, and reducing carbon emissions. The EU promotes the Energy Efficiency First principle¹⁴⁴ and encourages environmentally friendly practices within public sectors. The Eco-Management and Audit Scheme (EMAS)¹⁴⁵ is one tool that helps organizations improve their environmental performance.

The Commission has long supported Member States in identifying, designing, and implementing their reforms. The (financial) support can take various forms, and a variety of instruments are at the disposal of the Member States; for instance, Structural Reform support projects were implemented through the Structural Reform Support Programme until the end of 2020. The actions under Pillar 3 will be implemented primarily through the **Technical Support Instrument (TSI)**, its successor programme, as of 2021.¹⁴⁶

Since 2015, demand for reform support from Member States has far outstripped expectations. So far, almost 1800 reform projects have been supported in all 27 Member States, in several policy areas. By bringing together

¹⁴⁴ Regulation (EU) 2018/1999 on the Governance of the Energy Union and Climate Action and the Directive (EU) 2023/1791 of the European Parliament and of the Council on energy efficiency.

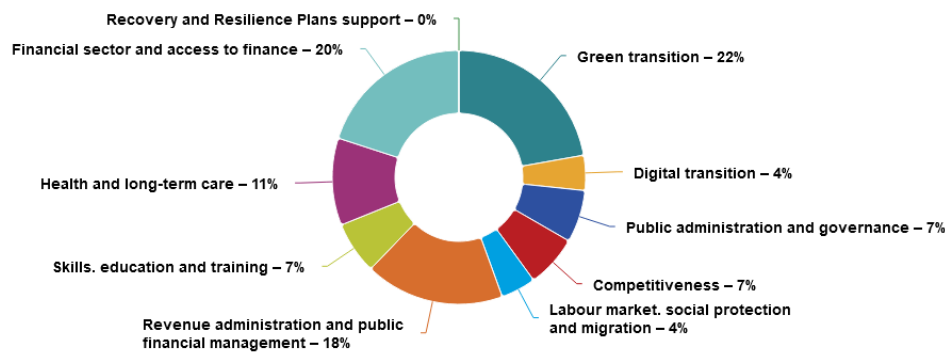
¹⁴⁵ The EU Eco-Management and Audit Scheme (EMAS): The Commission established this scheme to help organisations improve their environmental performance by saving energy and other resources, while focussing on legal compliance and promoting staff participation. It provides a method to evaluate and reduce their environmental impacts and a governance system with independent third-party verification for greater credibility. 286 public administrations throughout Europe have already made a commitment to reduce their environmental footprint and are registered in the scheme.

¹⁴⁶ European Commission, Directorate-General for Structural Reform Support Unit B.2 (2023). Enhancing the European Administrative Space (ComPAct)

specialised expertise from different backgrounds, including international organizations and the private sector, the European Commission helps Member States to carry out well-designed and efficient reforms.

Denmark, a frontrunner in Green Public Administration, utilizes various technical support instruments to achieve its sustainability goals. Some examples include **Energy Management Legislation:** Denmark has a robust legal framework that mandates energy efficiency standards for buildings and promotes renewable energy sources. **Green Public Procurement Guidelines:** The Danish government has established clear guidelines for public authorities to ensure their purchases prioritize environmentally friendly options. **Public Awareness Campaigns:** Denmark actively invests in educating its citizens about environmental issues and promoting sustainable living practices. By implementing these instruments and setting clear goals, Denmark serves as a model for other countries seeking to advance Green Public Administration.

Approved reform support projects in Hungary per policy area 2018-2024



https://reform-support.ec.europa.eu/our-projects/country-factsheets/hungary_en

For 2024, the Commission approved the following six reform support projects for **Hungary**: (i) accelerating climate adaptation measures in water management; (ii) developing a methodology for the comprehensive revision of costs and financing parameters in health care; (iii) developing policy and technical proposals to prepare Hungary to adopt VIDA; (iv) digital transformation and introduction of data asset management in the Hungarian Tax and Customs Administration. Furthermore, multi-country projects: (v) operationalisation of the transfer strategies for banking resolution; (vi) promoting the mental health of youth by addressing the risks of online gambling and gaming.

6.3. EIPA - EPSA

EPSA – the European Public Sector Award – is a Europe-wide award scheme for public sector entities at all levels of government. It has been organised every two years since 2009 by the European Institute of Public Administration (EIPA).¹⁴⁷ The **Green Public Administration award category** concerns the activities and initiatives of a project dealing with climate change, energy, and sustainability issues. Such activities may include reducing emissions and pollutants, optimizing resource utilization, promoting more efficient use of natural resources, recycling, minimizing waste, and preventing pollution. The award also accepts projects from public sector organisations, including policy-making, identification of services, design of policy services, budget planning for efficient delivery of services, and policy implementation or financial control.¹⁴⁸

In the latest general report,¹⁴⁹ in 2023-24, the evaluation of all 151 eligible project applications led to the selection of nine winning projects, which received awards for 1st, 2nd, and 3rd place across three Award Categories. Additionally, 26 Good Practice Certificates and three Special Recognitions were granted. Reflecting the differences in application volume across the Award Categories, the distribution of Good Practice Certificates varied: 16 for Innovation in Public Administration, 4 for Sustainability and Green Transition, and 6 for Digital Transformation.

Among the green transition and sustainability, there were total 18 eligible projects; the first winner was the **PHA2USE - Natural Plastic Substitute Caleyda® (Netherlands)**: Waterschap Brabantse Delta collaborated with other water boards to develop Caleyda, a sustainable alternative to plastic created from wastewater. This project, aiming to reduce environmental impact and reliance on oil, focuses on scaling Caleyda for widespread use. The key to its success is public-private cooperation and governance, which ensures legal, technical, and financial stability to advance Caleyda as a marketable plastic substitute. The second was **Klagenfurt's Climate Neutrality Goal by 2030 (Austria)**: Klagenfurt implemented a Smart City Strategy to achieve climate neutrality by 2030, targeting a reduction of greenhouse gases by 83% (from 2011 levels) through measures in energy, mobility, and urban

¹⁴⁷ <https://www.eipa.eu/epsa/>

¹⁴⁸ <https://www.eipa.eu/epsa-green-public-administration/>

¹⁴⁹ Klika, C. ed. (2024). *European Public Sector Award 2023-24*. Boosting Innovation Through Learning. General Report. EIPA. <https://www.eipa.eu/publication/epsa-2023-24-general-report/>

development. Recognized by the EU Mission for Climate-neutral and Smart Cities, the strategy involves multi-stakeholder governance, regular progress monitoring, and national and international funding, managed by Klagenfurt's International Project Management Agency. The last one was **Baia Mare's Transition to a Green City - SPIRE (Romania)**: Once a mining hub, Baia Mare transforms into a sustainable city with the SPIRE project. SPIRE employs phytoremediation to restore contaminated land, improve urban health, and foster eco-friendly behaviour. The project includes digital tools, such as a soil contamination tracker and educational programs to engage the community in the green transition, aiming for a complete urban renewal by 2050. The following projects receive Good Practice Certificates:

- Automatic Detection of Impervious Surfaces, Kreisverwaltung Recklinghausen, Germany
- The 'Schwammstein' – Sustainable irrigation of green spaces, City of Vienna – Road Management and Construction, Austria
- Circular Innovation HUB, Municipality of Wiltz, Luxembourg
- Energy and Raw Materials Factory (ERMF), Waterschap Aa en Maas, the Netherlands

6.4. European public administration country reports

The **European Public Administration Country Reports** provide an overview of the characteristics and recent developments in the public administrations of the EU-27 Member States from a qualitative and quantitative perspective. These reports serve mainly as background information, offering a comprehensive view of the state of public administration without focusing on green initiatives. The five main areas are the following: (i) Structures and organisation (reform environment and public employment trends, multi-level governance, reorganising government and reducing fragmentation); (ii) Policymaking, coordination, and implementation (prioritising, planning and coordinating policy, using evidence to inform policymaking, enacting policy); (iii) Civil service systems and human resources management (age profile of public administration, merit-based recruitment and promotion, performance management, senior civil service use of staff surveys); (iv) Transparency and accountability (access to information, open data and open government, transparency of government, oversight institutions: state of play); (v) Service delivery and digitalisation (provision of public services, quality of digital services, digitalisation of public services).¹⁵⁰

They are based on analytical work conducted as part of the "European Public Administration Country Knowledge" (EUPACK) project. EUPACK is a multi-year initiative by the Commission to deepen knowledge about the public administration systems and reforms across EU Member States. This knowledge facilitates more comprehensive country analysis, supports the identification of reform priorities, and enhances the effective delivery of technical and other EU assistance to strengthen state capacities in the Member States.

¹⁵⁰ Stimpson, A., Moretti, C., Lemmik, J. (2022). *Public administrations in the EU Member States 2022 Overview*. European Commission, Directorate-General for Structural Reform Support. https://reform-support.ec.europa.eu/public-administration-and-governance-coordination/european-public-administration-country-reports_en

Annex: Key Factors of Green Public Administration

