



Leveraging e-GP strategy for SPP Implementation

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Abbreviations and Acronyms

CPS	Centre for Procurement Support
CPV	Common Procurement Vocabulary
CSV	Comma Separated Value
ECI	Environmental Cost Indicator
ECP	Energy Conservation Products
E-GP	Electronic-Government Procurement
ELP	Environmental Label Products
EMP	Environment Management Plan
EMS	Environmental Management Systems
EPA	Environmental Protection Agency
EPD	Environmental Product Declaration
EPP	Environmentally Preferable Purchasing
ESG	Environment, Social and Governance
EU	European Union
GHG	Green House Gas
GIPS-I	Green Procurement Information System
GIPS-II	Green Products Information System
GPP	Green Public Procurement
GR	Good Recycled
ICT	Information and Communication Technology
IFMIS	Integrated Financial Management Information System
ISO	International Standard Organization
IT	Information Technology
JSON	Java Script Object Notation
KONEPS	Korea ON-line E-Procurement System
KEITI	Korea Environmental Industry and Technology Institute
KPI	Key Performance Indicator
LCC	Life Cycle Costing
M&E	Monitoring and Evaluation
MGTC	Malaysia Green Technology Corporation
MOE	Ministry of Environment
MOF	Ministry of Finance
MPNRE	Ministry of Natural Resources and Environment
MPI	Ministry of Planning and Investment
MSE	Micro and Small Enterprise
MSME	Micro, Small, and Medium Enterprise
OEM	Original Equipment Manufacturer
O&M	Operation and Maintenance
OSD	Operational Services Division
PE	Procurement Entity
PFM	Public Financial Management

PPA	Public Procurement Authority
PPL	Public Procurement Law
PwD	Person with Disabilities
SBD	Standard Bidding Document
SDG	Sustainable Development Goal
SME	Small and Medium Enterprise
SOE	State-Owned Enterprise
SPP	Sustainable Public Procurement
SRS	System Requirements Specification
TCO	Total cost of ownership
TOR	Terms of Reference
UNEP	United Nations Environment Programme
UNSPSC	United Nations Standard Products and Services Code
WOB	Women Owned Business
WB	World Bank

Executive Summary

This report provides a strategic analysis and implementation framework for leveraging the electronic Government Procurement (e-GP) system as the central mechanism to operationalize, measure, and monitor Sustainable Public Procurement (SPP).¹ The analysis is driven by the imperative to drive SPP implementation globally but also to report progress of SPP implementation through a credible and transparent system against SDG 12.7.1 target.

The assessment concludes that governments across the world have implemented e-GP as a part of broader public procurement reform and in some cases it possesses the necessary foundational architecture and functionalities to support SPP implementation but requires targeted enhancements to function as an effective enabler for SPP implementation and monitoring. Currently, e-GP systems often lack structured data fields, controlled criteria libraries, and a dedicated workflow logic needed to systematically integrate sustainable bidding requirements into procurement decisions and generate transaction-backed evidence for monitoring and evaluation of SPP implementation progress.

Drawing on comparative analysis of global and regional practices, including the system-enabled models of South Korea and China, and the criteria-library approaches of Ireland and the Netherlands, the report identifies a clear set of functional requirements. These include: (i) a minimum SPP dataset embedded in procurement workflows; (ii) a national Sustainability Criteria Library linked to the system; (iii) extensions to the Item List for sustainability attributes; and (iv) enhanced modules for contract management, supplier performance, and evaluation against SPP performance indicators.

To translate these requirements into action, the report recommends a four-phase implementation roadmap (0 - 36 months). This roadmap begins with establishing governance and piloting core functionalities, and progressively move to nationwide scale-up and the phased introduction of outcome/impact measurement. The immediate priority for most countries is to issue a comprehensive SPP Policy (if not already available) by the competent authority to provide the mandatory policy framework for SPP implementation and monitoring.

In summary, leveraging e-GP for SPP implementation and monitoring is a strategic investment in public financial management infrastructure. It represents the most efficient and scalable pathway to institutionalise sustainability, ensure policy coherence, produce credible performance data, and transform public procurement into an effective instrument for achieving nation's socio-economic and environmental objectives.

¹ **Sustainable Public Procurement (SPP)** is the overarching framework that integrates environmental, social, and economic criteria into purchasing, while **Green Public Procurement (GPP)** specifically focuses on environmental impacts. Because the report primarily focuses on the environmental dimension as a driver of broader sustainability, these two terms will be used interchangeably throughout the text, especially in the analysis of international practices, as different countries may focus on different sustainability aspects.

1. Introduction

1.1 Objectives of the report

Globally, there is a growing momentum to integrate social and environmental sustainability into public procurement decisions. Many countries have updated their legal bidding frameworks to support this shift, while also establishing concrete Sustainable Public Procurement (SPP) targets and monitoring mechanisms to align with SDG 12.7.1. Progressive benchmarks in some nations include targeting a 35% Green Public Procurement (GPP) rate by 2030, with a long-term goal of 50% by 2050.²

Therefore, it is critical for these countries to establish a well-defined M&E system that enables contracting authorities to assess whether SPP policy and strategies are being effectively implemented, identify challenges at early stage, and continuously refine procurement approaches to deliver improved sustainability outcomes.

Globally, several governments have leveraged their e-GP system to facilitate integration of sustainability into procurement decisions, systematically measure performance and track progress of SPP implementation across sectors and levels of government. Regular monitoring has allowed governments to evaluate SPP policy implementation performance and verify if sustainability requirements covering environmental, social, and economic dimensions are being genuinely integrated into procurement practices and take corrective measures.

Countries in the past have established a well-functioning e-GP system with the objectives to improve openness, transparency, competition and efficiency throughout the public procurement process. In many cases, countries have regulated the use of e-GP system as a mandatory requirement for all tenders above certain threshold. Normally, these systems are capable of comprehensively managing entire public procurement lifecycle, spanning from planning and bidding to contract management and payment disbursement.

The prime objective of this report is to draw from international experiences on leveraging e-GP system for SPP implementation, measurement, monitoring and evaluation and provide recommendations on the additional features and functionalities required in the existing e-GP system to facilitate SPP implementation and monitoring. An additional objective of the report is to provide a phased implementation roadmap for setting up M&E system and leverage e-GP system for capacity building needs for SPP implementation.

1.2 Methodology and data sources

This report has been developed using a structured desk review and a gap analysis, with the specific objective of identifying how e-GP systems can be leveraged to define, capture, and report performance on SPP progress. It followed a two-step process as detailed below:

Step 1: International desk study and comparative analysis of e-GP Systems

A targeted desk study was undertaken of selected e-GP systems and related guidance to understand: (i) the types of SPP related data fields and workflows to be embedded in e-GP platforms to facilitate integration of sustainability requirements; (ii) the performance indicators commonly adopted to measure SPP progress; (iii) system-enabled reporting and dashboard practices; and (iv) governance arrangements for data quality and periodic monitoring and evaluation. This comparative analysis was carried out for both Asian and non-Asian countries to understand global good practices on establishing a robust M&E framework.

Step 2: Development of recommendations

Insights from international practice were then applied to understand the functional requirements needed to integrate, measure and monitor SPP implementation. This analysis informed recommendations for additional features, data fields, workflows, reporting functionality, and governance controls required to make a typical

2 Prathumratana, L., & Kumar, S. (2024). *Asian experiences in sustainable/green public procurement: China, Lao PDR, Malaysia, Thailand, Vietnam*. EU SWITCH-Asia Policy Support Component (PSC). https://www.switch-asia.eu/site/assets/files/4034/gpp_regional_experiences_final.pdf

e-GP system fit for SPP implementation and performance measurement in alignment with national targets for SPP.

1.3 Alignment with the national and international context

The recent procurement reforms in many countries have allowed the integration of sustainability into the development of an overall procurement plan, preparation of bidding documents, design of requirements, evaluation of bids, signing and management of contract. This provision obligates contracting authorities in countries to integrate these mandates in their procurement process to accelerate the SPP implementation and thereby achieve the potential sustainability benefits and also meet the targets set out (if any) in the broader national strategy.

Besides, countries have also signed the 2030 Agenda for Sustainable Development and they need to work towards SDG 12.7 i.e. “Promote public procurement practices that are sustainable, in accordance with national policies and priorities” and report progress against SDG target 12.7.1 that measures the numbers of countries implementing SPP policies and action plans. As per the methodology developed by UNEP to report progress on SDG 12.7.1, the existence of an SPP monitoring system is one of the six parameters that determines the level of progress. Thus, setting up a robust M&E framework for SPP is not only required for assessing progress against national regulations but also to honour the international commitment to achieve SDGs.

Therefore, while developing performance indicators and an M&E framework, due care will be taken to ensure full alignment with national SPP regulatory framework and relevant national sustainable development priorities. In this report, a subset of indicators is explicitly proposed in the roadmap and proposes a M&E system that credibly supports reporting SPP progress against SDG target 12.7.1.

2. Leveraging e-GP for G/SPP Implementation & Monitoring

Over the past three decades, public procurement reforms worldwide have prioritised economy, efficiency, transparency, and fair competition. The transition to e-GP systems has strengthened these principles by digitising procurement workflows, reducing transaction costs, expanding market access, particularly for small and medium enterprises (SMEs) and improving public trust in government operations through greater openness and auditability.

The National e-Procurement System in any country is increasingly more than an operational platform for tendering. It represents a strategic public financial management and governance infrastructure if designed accordingly. As countries advance in their green growth agenda, climate commitments, circular economy transition, and inclusive development priorities, leveraging existing e-GP systems provides a practical and scalable pathway to embed sustainability into procurement decisions while producing credible, transaction-backed evidence of results.

This section sets out the case for using e-GP systems as a central enabling platform for SPP implementation and performance monitoring, supporting policy coherence, consistent operational practice, wider adoption and robust reporting for national oversight and international commitments.

2.1 Core Advantages of e-GP System for SPP Implementation

Building on the broad advantages of e-GP for procurement operations, the subsequent analysis focuses on a system's core strategic rationales, highlighting its unique role as an enabler for scalable and transparent sustainable procurement.

Translating Policy into Practice Through System Design

The primary rationale for adopting an e-GP system stems from its capacity to institutionalise SPP policy, transforming regulatory intent into consistent, mandatory practice across all procuring entities. Sustainability policies and regulatory intent become effective only when they are translated into routine procurement practices. E-GP systems can support this by embedding SPP requirements into standard digital workflows such as procurement planning, technical specifications, bidder qualification, evaluation templates, and contract management checkpoints. Once sustainability-related fields, templates, and validation rules are configured as system requirements, it becomes a routine function for procurement professionals, supporting a consistent implementation across procuring entities, sectors, and procurement modalities.

Strengthening Transparency and Accountability

An e-GP system provides end-to-end visibility of key procurement actions and decisions such as bid notices, bid documents, submissions, evaluation reports, award information, and contract-related records. Digitisation of the process and creating an interface with the public and bidders improves the integrity of audit trails and can allow oversight bodies and stakeholders to verify whether sustainability criteria were used, how they were scored or assessed, and what evidence was relied upon. This increased transparency strengthens accountability of procurement officials and suppliers, and it reinforces compliance with ethical, environmental, and social requirements in public purchasing.

Streamlining Identification of Sustainable Options

A structured product/service classification functionality in the e-GP ecosystem can support procurement professionals in choosing and applying sustainability considerations from a standard sustainability criteria library. Over time, these features can evolve into a searchable “green” or “sustainable” catalogue for commonly procured items, enabling contracting authorities to identify sustainable options more efficiently and apply them consistently. This facilitates ease in adoption and improves the quality and comparability of sustainability requirements used in procurement.

Enabling Data-Driven Procurement and Market Development

One of the strongest advantages of an e-GP system is its ability to generate structured and comparable data across the procurement lifecycle. When SPP fields are standardised, a typical e-GP system can provide evidence on uptake and coverage, supplier participation, compliance trends, and performance outcomes. Such analytics support better policy calibration, targeted capacity-building, and more informed engagement with the market on their readiness level.

Improving Supplier Engagement and Capability, especially for SMEs

Clear and predictable requirements are essential for market transformation through SPP implementation. By using the e-GP portal as a channel for guidance, standard templates, and consistent sustainability expectations, vendors gain improved visibility on sustainability-related requirements and become aware of how compliance will be assessed by the contracting authorities. This is particularly important for SMEs, which often face higher transaction and information barriers. The improved visibility of sustainability requirements gives time to vendors to modify processes and develop capabilities, stimulate innovation, and thereby broadens participation of vendors in sustainable supply chains.

2.2. E-GP as a Monitoring & Evaluation Platform for SPP

Standardised, Comparable Data Capture

The key to an effective SPP M&E framework is consistent and comparable data: verifying whether sustainability requirements were applied, which criteria were used, what verification methods were accepted, how evaluation considered sustainability, and how delivery of sustainability requirement was ensured. An e-GP system can standardise such information by using mandatory SPP tagging, selection from approved criteria list, structured recording of verification evidence, and standardised performance reporting fields in contract management. This will allow automatic data capture against performance indicators designed to measure and monitor SPP progress.

Moving from Manual Reporting to Transaction-Backed Evidence

Traditional monitoring approaches such as surveys, spreadsheets, periodic reporting are resource-intensive and vulnerable to inconsistency, delays, and weak verification. In contrast, an e-GP-based approach automatically generates indicators from actual procurement transactions and records. This improves timeliness, objectivity, and credibility of SPP performance data, and reduces the risk of over- or under-reporting progress. Further, automated reporting, standard exports, and pre-configured dashboards lower transaction costs for contracting authorities while reducing administrative burden, improving data completeness and consistency.

Enabling Near Real-Time Oversight and Adaptive Management

When sustainability related data is embedded into the system, dashboards can provide oversight bodies such as Ministry of Finance or Environment with visibility on SPP uptake at federal, states and municipals levels across different procurement categories. This enables early identification of gaps such as contracting authorities with low adoption, product categories lacking criteria, or weak verification practices and supports targeted corrective action, capacity building, and refinement of guidance and procurement regulations.

Strengthening Auditability and Public Trust

A digitised audit trail supports more efficient internal control, external audit, and public scrutiny. Auditors can trace sustainability requirements from planning through evaluation to contract implementation and verify evidence submitted by suppliers. This enhances accountability for public spending and strengthens confidence among citizens, suppliers, and development partners.

2.3 Alignment with International Commitments and National Green Transition Priorities

Supporting SDG 12.7 and Credible Reporting

SDG 12.7.1 indicator expects countries to provide evidence not only of SPP policies, but also of operational implementation and monitoring systems. An e-GP platform with embedded SPP tracking functionalities provides a practical mechanism for consistent aggregation and reporting of progress based on transaction-level evidence. This strengthens the credibility of the country's reporting system and positively enhances investor sentiments.

Advancing Policy Coherence for Country's Green Transition

Embedding sustainability functionalities into an e-GP system helps align procurement practice with a nation's broader green transition objectives such as decarbonisation pathways, resource efficiency and circular economy measures, and inclusive economic participation. It also creates coherence between digital governance reforms and sustainability outcomes, ensuring that public procurement supports strategic national priorities.

In summary, adapting an e-GP system to enable SPP implementation is not simply a technical enhancement but it is a strategic investment in modern procurement governance. A system-based approach can:

- scale G/SPP consistently across procuring entities and priority categories;
- embed sustainability into routine decision-making;
- generate credible data for management, accountability, and reporting;
- reduce long-term administrative costs through automation and standardisation; and
- strengthen market signals that encourage suppliers to innovate and improve sustainability performance.

What is most creditable is the fact that it builds on existing national digital infrastructure, increases the return on prior investments with small additional expenditure, and strengthens a country's ability to deliver a procurement system that is transparent, accountable, and aligned with green and inclusive development objectives.

3. Global and Regional Experiences

In recent years, an increasing number of countries have leveraged their national e-GP systems to accelerate the integration of sustainability criteria into procurement decisions, and further to measure, benchmark, and monitor progress of SPP implementation. In many developed economies, e-GP platforms were established well before SPP policies were adopted. Consequently, governments enhanced and reconfigured existing e-GP functionalities such as standard templates, mandatory data fields, product/service classification, criteria libraries, and reporting dashboards to embed sustainability considerations into purchasing workflows and to generate reliable evidence for SPP implementation, monitoring and evaluation.

This evolution reflects a broader global trend. An e-GP system is increasingly viewed not only as a transaction platform, but also as a strategic governance and data infrastructure for mainstreaming SPP at scale and speed. Accordingly, countries are either (i) upgrading legacy e-GP systems to enable sustainability integration and reporting, or (ii) designing newer systems/platform with sustainability-related functionalities built in from the very outset. Meanwhile, the pace and sophistication of such system enhancements have grown steadily due to stronger climate and circular economy commitments, more stringent disclosure expectations, and the need for credible, transaction-backed performance data. For example, several countries in the European Union (EU) lead by utilising tools like the EU GPP criteria toolkit³ to guide procurement officers in incorporating sustainability into tenders and contracts. Since GPP criteria are voluntary in nature, countries have devised their own system to facilitate seamless integration into tenders.

The discussion in this chapter focuses on international experiences relevant to the use of a typical e-GP system to accelerate adoption and measurement and monitoring of SPP implementation. For analytical clarity, the international practices are presented in two parts: (i) global experiences from non – Asian countries, and (ii) experiences from the Asia-Pacific region that are more comparable to Asian countries' institutional and market context. The countries have been selected based on the availability of publicly accessible information as publicly available information on this subject is rare.

3.1 Global Experiences from Non-Asian Countries

3.1.1 Denmark

Denmark has a long-standing policy commitment to GPP, with initial strategic efforts dating back to 1991. The Danish Environment Protection Agency (EPA) has been implementing and supporting GPP for more than 15 years. Among other things, it has developed a web-based portal called “The responsible Purchaser⁴” that features advice and guidance on how to incorporate social and environmental concerns in public procurement. The portal is designed to assist public and private purchasers in Denmark and it consolidates essential guidance and tools, including the EU's GPP criteria and EPA resources on total cost of ownership. Its core function is to bridge policy and practice by providing direct access to reputable, ready-to-use sustainability requirements from EU and the Danish Partnership for Public Green Procurement that can be copied directly into tender documents. By removing technical barriers and embedding pre-approved criteria into daily workflows, the platform standardises implementation, reduces administrative burden, and empowers procurers to consistently integrate social and environmental considerations, thereby driving market demand for sustainable products in alignment with national and EU objectives.

In 2020, the Government adopted a renewed GPP strategy with an explicit emphasis on reducing the carbon footprint of public procurement, including transportation and the construction of public buildings. A key feature of the approach is the application of a unified classification and assessment method that enables procurement activities across multiple categories to be evaluated on a comparable basis for carbon footprint estimation.

3 Available at https://green-business.ec.europa.eu/green-public-procurement/gpp-criteria-and-requirements_en, Accessed on 07.06.2024

4 Available at <https://denansvarligeindkober.dk/indkoebsmaal-og-kriterier>

The carbon footprint calculation is underpinned by a detailed dataset derived from procurement invoices, including product descriptions at the line-item level. These invoice-level datasets are mapped to relevant product and service categories and then matched with emission intensity factors derived from the **EXIOBASE**⁵ multi-regional input-output model. This structure enables estimation of emissions across a product’s value chain. In operational terms, Denmark’s approach derives an emissions intensity metric (e.g., **emissions per DKK**) by dividing an industry’s estimated emissions by the total value of its output. This emissions intensity is then multiplied by the procurement expenditure to estimate the total carbon footprint attributable to the purchasing decision.

However, the methodology also faces important limitations. First, inaccuracies can arise where there is imperfect alignment between procurement categories used in purchasing/invoicing systems and the industry/product classifications available in EXIOBASE, leading to potential misallocation of emission factors and distorted footprint estimates. Second, because the approach is expenditure-based, higher purchase price of the same product can yield proportionately higher estimated emissions, even when physical quantities and technical performance are unchanged.

3.1.2 Ireland

Ireland has established a comprehensive framework for GPP, structured around a clear national strategy, practical implementation tools, and a robust monitoring system. Ireland’s GPP framework is guided by the national “[Buying Greener: Green Public Procurement Strategy and Action Plan 2024-2027](#)”, which mandates the inclusion of environmental criteria in public tenders. The strategic direction is operationalised through sector-specific guidance developed by the Ireland EPA that currently provides GPP criteria for 11 priority sectors. The strategy mandates all public tenders, exceeding national thresholds (€50,000 for goods/services and €200,000 for works), must incorporate sustainable specifications with effect from Jan 2025.

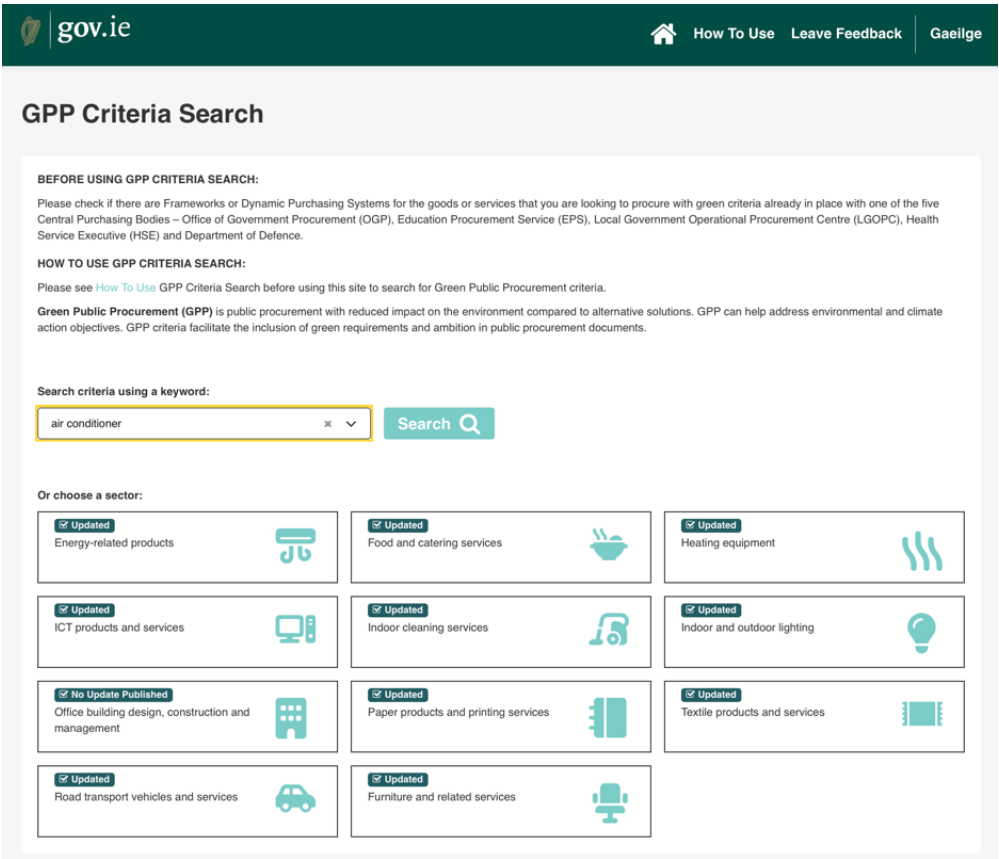


FIG 1: Ireland GPP Criteria Search Tool

5 EXIOBASE provides economy-wide input-output tables that describe industry’s production activities and supply-chain relationships and associated environmental data (including CO₂ emissions), capturing information on energy use, value added, land use, and trade flows.

The Office of Government Procurement manages the **GPP Criteria Search tool**⁶ to facilitate practical implementation. This digital platform facilitates efficient adoption by providing a structured, user-friendly gateway to approved criteria into bid documents. Procurers can search relevant technical specifications, award criteria, or contract clauses via a keyword search or a sector-based menu. The tool strategically differentiates between “core” criteria (for addressing key environmental impacts with minimal administrative effort) and “comprehensive” criteria (for pursuing enhanced environmental performance), allowing procurers the flexibility to align with specific policy goals. The chosen sustainability criteria can be downloaded in a pre-formatted document that can be directly copy-pasted into tender documents.

Ireland has developed a formal, evolving monitoring system that mandates reporting at both institutional and transactional levels. The foundational mechanism is Department of Public Expenditure and Reform Circular 20/2019, requiring all government departments to submit annual GPP reports. To standardise this process, the EPA, in cooperation with other agencies, developed a dedicated GPP Monitoring and Reporting Template for collecting qualitative and quantitative data across priority sectors. This institutional reporting is now complemented by mandatory transaction-level disclosure under Circular 05/2023. It requires public bodies to report on GPP in contract award notices for all contracts above EU procurement thresholds with effect from 2024 and contracts above national thresholds with effect from 2025.

Ireland has planned to capture contract-level data through new eForms on the national eTenders platform, which includes dedicated fields for GPP declarations. The Office of Government Procurement plans to establish an automated mechanism to extract and analyse this data, creating a powerful evidence base for tracking GPP implementation. Concurrently, the Sustainable Energy Authority of Ireland is enhancing its online system to help public bodies monitor energy performance and carbon footprints against 2030 climate targets. Together, this integrated approach represents a sophisticated shift from qualitative reporting towards a robust, data-driven system of accountability for GPP progress and monitoring.

3.1.3 The Netherlands

The Netherlands has a national SPP policy framework in place since 2007, with targets for green procurement set out in the national GPP action plans. To systematically integrate sustainability into procurement, the Netherlands has provided its public procurers with the SPP Criteria Tool, called Maatschappelijk Verantwoord Inkopen-Criteria tool or MVI-Criteria tool⁷, since 2017. The platform offers a comprehensive library of more than 900 ready-to-use sustainability criteria spanning 48 product groups. These criteria are derived from and aligned with EU GPP standards, Dutch national legislation, and established market practices.

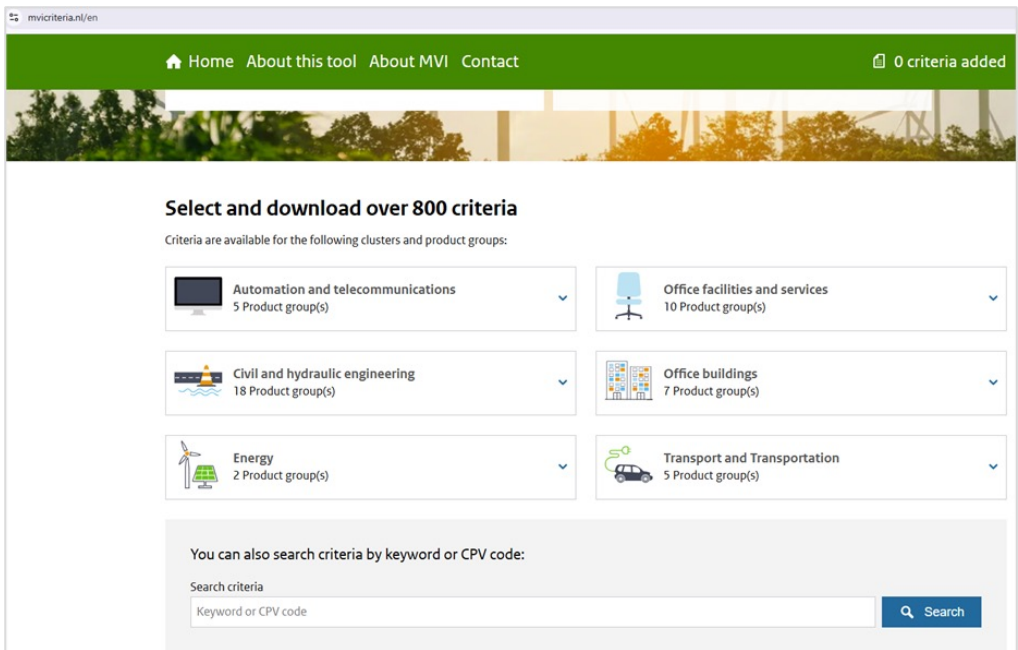


FIG 2: Netherlands MVI-Criteria Tool

6 Available at <https://gppcriteria.gov.ie>

7 Available at <https://www.mvicriteria.nl/en>

The MVI Criteria Tool enables procurers to efficiently compile current sustainability requirements for integration into tender documents using Common Procurement Vocabulary (CPV) codes. Procurers can select from defined criteria across suitability, selection, award, and contract management phases. The tool offers three ambition levels and displays relevant sustainability themes for each criterion, allowing for tailored specification. Selected criteria can be downloaded, reviewed, customised to suit local context, and incorporated into bid documents.

Building on its functional design, the tool translates abstract SPP policy goals into concrete, actionable procurement requirements, thereby facilitating implementation. While it significantly simplifies the process, the tool is designed as an aid, not an autopilot; procurers retain critical decision-making responsibility. They must judiciously select relevant criteria based on context and determine necessary specifications, appropriate verification methods and the relative weighting of award criteria.

The tool's user-friendly interface has driven significant adoption and international recognition. Notably, the Flemish government began using it into its procurement processes in May 2024, while several other EU and non-EU countries are exploring similar systems. The tool's tangible impact is demonstrated by its application in 2023 to public tenders with a total value exceeding €3 billion.

The Dutch monitoring approach places particular emphasis on whether sustainability requirements are integrated into tender documentation and it is implemented primarily through systematic analysis of tenders published on **TenderNed**⁸, the national electronic tendering platform. Tenders are classified using **CPV** codes, which are mapped to product and service categories for which national SPP criteria have been established. The government periodically reviews samples of tenders to determine whether relevant environmental and social criteria have been incorporated (e.g., criteria aligned with national SPP requirements, labour standards linked to ILO conventions, and social return obligations).

Environmental benefits are estimated for selected categories, particularly transport and vehicles, through quantified indicators such as GHG emissions reductions, avoided NOx & particulate matter, and reduced fossil fuel consumption. GHG reductions are typically estimated using standard emission factors available at <https://co2emissiefactoren.nl>. Results generated from the sampled tenders are subsequently extrapolated to provide an estimate of overall benefits across the total tenders. In parallel, the Netherlands monitors procurement inclusiveness by estimating SME participation, in both contract value and number of contracts, based on tender and award data.

Beyond tender-document analysis, the Netherlands has also developed more advanced tools to quantify environmental performance at the contract level. The Ministry of Infrastructure and Water Management uses **DuboCalc**⁹, a life-cycle-based tool that calculates the environmental impacts associated with materials and energy use across the full value chain. Outputs are expressed as an Environmental Cost Indicator (ECI). Bidders use DuboCalc to calculate the ECI of their design and construction proposals based on material choices, quantities, and construction methods. Contracting authorities can also generate a reference ECI as a benchmark model reflecting preferred design assumptions (e.g., optimal material selection, quantities, and transport distances). In tender evaluation, Dutch regulation allows the application of a fictitious price correction (a non-financial adjustment) to reflect environmental performance, where bids with an ECI below the reference benchmark receive an evaluation advantage in accordance with pre-disclosed criteria. Importantly, once a bid is awarded on the basis of a proposed lower ECI value, that value becomes contractually binding, strengthening assurance that environmental performance commitments are delivered during implementation. The differential between a bidder's proposed ECI and the reference ECI is then used as the basis for estimating environmental benefits, including GHG reductions, for the specific contract.

3.1.4 Slovenia

Slovenia introduced GPP policy through its **Public Procurement Act 2015** and subsequently strengthened the framework through the **Decree on Green Public Procurement 2021**. The Decree established mandatory environmental criteria for procurement across 22 product and service categories, thereby moving GPP from a voluntary instrument to a rules-based requirement embedded in core procurement practice.

8 Available at <https://www.tenderned.nl/cms/en/english/tenderned-dutch-governments-online-tendering-system>

9 Available at <https://www.dubocalc.nl/en/>

Slovenia's national e-procurement system, **e-Narocanje**¹⁰, is a mandatory central platform for all public procurement procedures, enhancing transparency, efficiency, and access and serves as an important potential infrastructure for GPP. However, it does not seem to have a specialised GPP module but is the ideal foundation to build or integrate one.

Building on its regulatory foundation, Slovenia launched a comprehensive impact-measurement methodology in 2022 to assess the effects of GPP on market outcomes, greenhouse gas (GHG) emissions, other environmental impacts, and selected economic and social impacts. The initial application of this methodology covered six priority categories, namely computers, refrigerators, dishwashers, water heaters, road vehicles, and building construction.

The analytical design adopted for measuring impact differed depending on the nature of the impact being assessed. GHG emissions were quantified directly, while several other environmental effects such as pollution-related impacts, waste generation and recycling, biodiversity pressures, and smog-related impacts were estimated indirectly using proxy measures and conversion factors. The methodology therefore combined direct measurement where sufficient data were available with indirect estimation where impacts are more diffuse or where procurement data do not readily translate into physical impact parameters.

The study also examined broader economic and social dimensions. On the economic side, it compared energy and water consumption costs between green and baseline scenarios and assessed wider market effects such as competition dynamics, fair-trade considerations, local production and sourcing, and innovation signals. Social impacts, including working conditions, employment effects, public health and safety, and cultural considerations, were estimated indirectly, drawing on how GPP requirements influence suppliers, workers, and communities.

Data were drawn from selected GPP relevant contracts published on the **Electronic Public Procurement portal**¹¹ of the Republic of Slovenia and categorised using standardised CPV codes. This classification enabled the development of broadly applicable indicators for the selected product groups and supported comparability across contracts. The analysis established a baseline reference for each product group against which green procurement outcomes were compared. Baselines were defined using relevant reference specifications, including energy performance labels (and comparable schemes such as Energy Star where applicable), which provide standardised parameters for product performance (e.g., energy consumption).

A practical challenge identified in Slovenia's experience relates to the accessibility and usability of procurement data for impact measurement. Specifically, navigating e-procurement databases and extracting procurement data at a granular level required to estimate environmental and socio-economic impacts was highlighted as a constraint.

3.1.5 State of Massachusetts (USA)

The State of Massachusetts (USA) institutionalized **Environmentally Preferable Purchasing (EPP)** through **Executive Order No. 515 (2009)** and leveraged its e-GP system COMMBUYS¹² as the primary tool for implementing and managing its EPP programme. While the primary focus of the EPP programme has been on incorporating environmental requirements into technical specifications, sustainability considerations have expanded into other stages of the procurement cycles, thereby maximising the full potential of EPP.

COMMBUYS is a central platform for implementing the state's EPP policies. It facilitates the integration of sustainability by providing access to Statewide Contracts that have been pre-negotiated by the Operational Services Division (OSD) to include Environmental Preferable Products and Services i.e. goods and service with reduced environmental and health impacts. This allows public buyers to easily identify and select sustainable options while ensuring compliance with executive orders, such as those mandating EPPS purchase and reducing single-use plastics. The system also streamlines participation in Supplier Diversity Programs.

10 Available at <https://narocanje.ezdrav.si>

11 Available at <https://ejn.gov.si/en/>

12 Available at <https://www.commbuys.com/bsol/>

While transaction data flows through COMMBUYS, comprehensive tracking and reporting on sustainability metrics are managed by OSD through dedicated biennial reports. The State has published information on programme benefits since 2011. The monitoring approach focuses on quantifying cost and environmental benefits for a defined set of products and services, specifically those for which established benefits calculators are available.

Massachusetts collects data on the volume of eligible products purchased directly by the State and on products supplied or used under service/work contracts. Vendors are required to report quarterly sales data through an online vendor reporting system. The programme then uses an internally developed tool to extract and consolidate relevant procurement information and to calculate cost savings and environmental benefits on a routine basis, enabling consistent reporting across reporting periods.

For benefit quantification, Massachusetts relies primarily on publicly available tools, including the **ENERGY STAR Savings Calculator**¹³, the **Electronic Environmental Benefits Calculator**¹⁴, and the **U.S. EPA Waste Reduction Model**. These tools estimate key environmental outcomes such as energy savings and associated GHG emissions reductions. Depending on the tool and product category, additional estimates for indicators such as water savings, reductions in toxic materials, and avoided emissions may also be made. Energy related calculators may also produce monetised estimates of savings for product groups such as lighting and information technology equipment.

A notable feature of the Massachusetts approach is its pragmatic focus on measuring benefits only for those product and service categories where standardised, publicly available calculation tools exist. This enhances methodological consistency and transparency, but also implies that quantified environmental benefits may represent only a subset of the overall EPP programme footprint.

Besides above, the **UK, Sweden, and Germany** demonstrate robust frameworks for sustainable procurement. The UK's system integrates sustainability criteria and publishes annual sustainability reports for transparency¹⁵. Sweden's e-procurement system incorporates environmental and social criteria, supplemented by training for procurement officials to ensure effective implementation. Germany uses eco-labels and life-cycle costing in its e-procurement system, emphasizing transparency and detailed sustainability reporting. Estonia's e-GP system allows procurers to automatically add environmental criteria or develop one's own green criteria, and to distinguish between them. These international practices showcase the pivotal role of e-procurement systems in advancing sustainable procurement globally.

3.2 Regional Experiences

3.2.1 China

China's Green Public Procurement (GPP) framework is anchored in two key regulations: the **Regulation on Government Procurement of Energy Conservation Products 2004** and the **Regulation on Government Procurement of Environmental Labelling Products 2006**. Together, these instruments require public authorities at all levels to give purchasing preference to products that (i) carry the China Environmental Label and/or the China Energy and Water Conservation Label, and (ii) are included in the government's designated product procurement lists.

China's national e-procurement system serves as the primary enforcement mechanism for its mandatory GPP policy, specifically designed to promote products in the ECP and ELP lists. The ECP and ELP product lists are digitally embedded into the central Government Procurement Website, which is mandatory for all public agencies. The system operationalises policy by prompting procurers to select products from these official lists during the tender creation phase for specified categories. The platform has "Price Discount Preference" functionality, wherein bids offering ECP or ELP products receive a stipulated percentage deduction from their quoted price during the electronic evaluation phase, enhancing their competitiveness against conventional alternatives. This institutional design ensures that sustainability remains a default parameter in the government's purchasing workflow.

13 Available at <https://www.energystar.gov/buildings/save-energy-commercial-buildings>

14 Available at <https://epeat.net/calculators>

15 Available at <https://www.applytosupply.digitalmarketplace.service.gov.uk/g-cloud/services/354416822471778>

By centralising all procurement data, the platform enables the MoF to monitor compliance, track the volume and value of green purchases, and periodically update the integrated product lists. Monitoring of these regulations has been done across the public sector since 2004 on an **annual basis**. Monitoring focuses on the level of green product purchasing within the priority product groups covered by the ECP and ELP lists, measured both as **absolute expenditure** and as a **percentage of total expenditure** for those product groups.

In addition to monitoring procurement volumes, China has also undertaken evaluations of the **environmental benefits** of GPP. For example, in 2016 the **China Environmental United Certification Centre** assessed environmental benefits using procurement data of **ELP** products for three high-volume product groups, namely **office IT equipment, office furniture, and copy paper**. The evaluation methodology compared an average proxy eco-labelled product against a proxy conventional product, using the ecolabel's threshold criteria as reference points and assessing performance against the most relevant impact categories for each product group.

The government also monitors upstream market response as an indirect indicator of GPP effectiveness, including trends in the **number of certified products and companies** under the China Environmental Label scheme and the **annual output value** of certified products. Information on GPP implementation and related results is publicly disseminated through the national website of the **Ministry of Finance**.

3.2.2 India

India does not yet have a comprehensive sustainable public procurement policy. However, sustainability objectives, particularly those related to inclusive economic participation, are advanced through sector-specific laws and procurement mandates. In 2016, the Govt of India enacted a law on the **Micro, Small and Medium Enterprises (MSMEs) Development Act, 2006**, establishing a legal basis for promoting and developing MSMEs. Building on this, the Ministry of MSME issued the Public Procurement Policy for Micro and Small Enterprises (MSEs) Order, 2012, which introduced time-bound targets for central government ministries, departments, and public sector enterprises. The Order initially required that at least 20% of annual procurement by value be sourced from MSEs and becoming mandatory from FY 2015-16. The targets were later revised upward to 25%, including a dedicated sub-target of 3% for procurement from women-owned MSEs. The policy further specifies that, within the overall MSE target, a defined share must be procured from MSEs owned by Scheduled Castes and Scheduled Tribes, a historically disadvantaged community. Each organisation was required to set annual procurement targets from FY 2012-13 onward and report progress to the Ministry of MSME on a yearly basis.

To enable consistent performance monitoring, the Ministry of Railways, one of the ministries of Govt of India, issued detailed internal instructions to report progress against the MSE policy on a monthly basis using standardised indicators. These included: (i) total orders placed (number and value); (ii) orders placed with MSEs (number and value), including those placed specifically with SC/ST-owned MSEs; (iii) the proportion of procurement value awarded to MSEs overall and to SC/ST-owned MSEs; (iv) the number of approved/registered MSE vendors; and (v) confirmation of uploading annual MSE procurement plans on the designated platform. While these indicators provided a robust basis for tracking compliance and performance, initial manual reporting produced inconsistencies and imposed an avoidable administrative burden.

To address these limitations, the **Indian Railways e-procurement System¹⁶ (IREPS)** was enhanced to support automated, system-based monitoring. During FY 2014-15, the vendor registration module was modified to classify vendors as MSEs and, where applicable, as SC/ST-owned enterprises. New vendor registration module required each vendor to input enterprise category details and submit supporting documentation, enabling eligible suppliers to be correctly identified and to access policy benefits. Once these classifications were systematised and procurement transactions were centrally recorded, IREPS could generate monthly performance reports against the prescribed indicators and support streamlined reporting to the Ministry of MSME. However, this level of automation was not uniformly achievable across all ministries and other units, particularly where procurement was not conducted through an e-procurement system or where existing platforms lacked such reporting functionality.

16 Available at <https://www.ireps.gov.in/>

To strengthen monitoring across the wider public sector, the Ministry of MSME established the **MSME SAMBANDH**¹⁷ platform to track procurement performance and vendor participation under the MSE policy. The platform consolidates information on MSME vendor registration and procurement volumes by category and is designed to support reporting and oversight against policy targets. Data for reporting progress in implementation of MSEs policy are drawn from the Government of India's national e-procurement system, the **Central Public Procurement Portal**¹⁸ and associated procurement datasets used by central ministries, SOEs, and participating state entities.

3.2.3 Japan

Japan enacted the **Act on the Promotion of Procurement of Eco-friendly Goods and Services by the State and Other Entities** (Green Purchasing Law) in 2000 and has established a structured approach to estimating the environmental benefits associated with GPP. In practice, the benefit estimation exercise is undertaken annually and, at present, is applied primarily to central government agencies.

The Japan Government Procurement (JGP)¹⁹, national e-procurement system, serves as the primary operational mechanism for enforcing the Green Purchasing Law. The system institutionalises GPP by digitally integrating mandatory environmental specifications directly into the procurement workflow. When creating tenders for product categories covered by the law, the system guides the procurers to apply precise technical requirements as per GPP criteria and certification standards (e.g., the national Eco Mark ecolabel) from government-published lists. This design transforms GPP from a voluntary policy into a default, standardised step for all central government agencies, ensuring consistent nationwide compliance and converting strategic environmental goals into routine administrative practice.

The system further enforces GPP through a structured chain of digital accountability that enhances transparency and enables performance measurement. Suppliers' bidding via the JGP portal must electronically declare and provide verifiable proof that their products meet the mandated eco-friendly criteria, creating an auditable compliance record for each tender.

The monitoring framework relies on reporting of purchases of product and service categories included under the GPP policy by each ministry. The system of data tracking varies depending on the internal procedure within the Ministry. However, the Ministry of Environment supports consistency in gathering data through a standardised reporting template. Specifically, it provides a spreadsheet to ministries for recording the quantities of designated eco-friendly products purchased on a monthly basis. At the end of each fiscal year, ministries submit the completed templates to the Ministry of the Environment, which aggregates the data and prepares consolidated progress reports on GPP implementation.

Japan's approach to estimating environmental benefits is anchored in the concept of a **reference minimum green specification**, against which the performance of procured eco-friendly products and services is assessed. For energy-consuming products in particular, greenhouse gas (GHG) emission reductions are estimated by translating energy savings into avoided emissions using the relevant **emission factor for the energy source**. The basic formula used to estimate environmental benefits for each product category is presented below:

$$= \text{Total number of products purchased during the year} \times (\% \text{ green of green products purchased during the year} - \% \text{ of market share of the green product in year 2000}) \times \text{conversion factors of the green product characteristics to CO}_2 \text{ eq emissions} \times \text{years of use of the product.}$$

However, environmental benefits are not calculated for all categories. Calculations are limited to just 19 product categories out of the more than 260 for which specific GPP procurement criteria exist.

17 Available at https://sambandh.msme.gov.in/PPP_index.aspx

18 Available at <https://eprocure.gov.in/eprocure/app>

19 Available at <https://www.jetro.go.jp/en/database/procurement/>

3.2.4 Malaysia

Malaysia has been among the leading countries in the Asia-Pacific region in leveraging public procurement expenditure to stimulate market transformation. It introduced its **Green Government Procurement (GGP)** policy in 2013. The **11th Malaysia Plan (2016-2020)** subsequently strengthened its implementation by making GGP mandatory for selected ministries and agencies and by setting a target for 20% of procurement to be “green” by 2020 for defined product and service groups for which a Malaysian ecolabel was available²⁰. In 2016, the Ministry of Finance issued the GGP Long-Term Action Plan (2016–2030), expanding implementation coverage initially to 12 ministries and their agencies, and later extending it to all 25 ministries and their agencies in 2017.

Malaysia’s primary procurement mechanism is the centralized electronic platform, **ePerolehan**²¹. While this system provides the digital infrastructure for public purchasing, the integration of GGP is not deeply automated within its core workflow. Current implementation relies predominantly on supportive policy frameworks, advisory guidelines, and parallel reporting procedures.

Malaysia has established a robust monitoring and evaluation framework to track GGP uptake and assess progress against national targets. Under Ministry of Finance guidelines, ministries are required to submit biannual GGP reports to the Malaysia Green Technology Corporation (MGTC) using a mandatory reporting template covering the designated product and service groups. MGTC consolidates, validates, and analyses the submissions and presents results to the GGP Steering Committee to support oversight, decision-making, and communication of progress across government.

To strengthen the consistency and reliability of measurement, the Ministry of Finance has integrated a dedicated GGP monitoring module into the national e-GP system. The module tracks two core performance indicators: (i) the absolute value of procurement classified as GGP, and (ii) the share of GGP as a percentage of total procurement within the selected product and service groups. This system-enabled monitoring approach has supported performance tracking against national plans; for example, the **12th Malaysia Plan** reports that GGP implementation reached 20.7% by end-2020, exceeding the 20.0% target.²²

Beyond tracking procurement volumes and value, Malaysia’s monitoring approach also seeks to quantify environmental outcomes by estimating potential CO₂ emissions reductions associated with the purchase of prioritised green products and services. A product or service is classified as “green” when it meets the applicable GGP criteria and is aligned with Malaysia’s national ecolabelling framework, including the **SIRIM** ecolabel scheme. Environmental benefits are estimated using the formula presented below:

Environmental benefit in terms of GHG emission savings

= Total number of products purchased during the year × (Conventional product environmental parameters – Green product environmental parameters) × Conversion factors of the green characteristics to CO₂e emissions.

3.2.5 South Korea

South Korea established one of the most institutionalised GPP systems globally through the **Act on the Promotion of Purchase of Green Products (2005)**, with an explicit objective of using public demand to accelerate the market uptake of eco-labelled products. The policy imposes mandatory obligations on government agencies, state-owned enterprises (SOEs), and public institutions to prepare an annual GPP implementation plan and report on implementation performance, including the purchase of designated green products. The Ministry of Environment (MoE), as the lead ministry for GPP, monitors implementation through two core dimensions: (i) institutional compliance, reflected in the number of agencies preparing plans and submitting performance reports; and (ii) procurement performance, measured in terms of the number and value of green products purchased, including the share of procurement within product groups covered by the **Korea Eco-label** and the **Good Recycled (GR) Mark**.

20 Available at <https://www.mgtc.gov.my/what-we-do/my-hijau/government-green-procurement/>

21 Available at <https://www.eperolehan.gov.my>

22 12th Malaysia Plan 2021–2025, Available at https://pulse.icdm.com.my/wp-content/uploads/2021/09/Twelfth-Plan-Document_compressed-1.pdf

South Korea has established one of the world's most advanced and effective models for GPP implementation through its mandatory national e-procurement platform, the **Korea ON-line E-Procurement System (KONEPS)**. KONEPS is designed to integrate sustainability directly into the transactional workflow of public purchasing. The system's core mechanism is a dedicated "Green Product" database, where suppliers must formally register goods certified by the national Korea Eco-label. This creates a verified, standardized national catalogue. The platform's algorithms then automatically apply a mandatory price preference (typically 5-15%) in favour of these registered products during e-bid evaluations. This system-enforced rule, combined with tools that allow buyers to easily filter for sustainable options, ensures that environmentally friendly goods gain a decisive competitive advantage, making the sustainable choice the default and most straightforward path for procurement officers.

As the sole mandatory platform for all public procurement, KONEPS captures comprehensive, real-time data on every transaction. This allows the Public Procurement Service (PPS) to monitor the exact volume, value, and proportion of green purchases across all government agencies, enabling strict oversight and transparent public reporting. Complementing KONEPS in this endeavour, the Korea Environmental Industry and Technology Institute (KEITI) operates dedicated information systems that support GPP implementation and reporting. These include (i) a Green Procurement Information System (GPIS-I), which consolidates and compiles GPP-related procurement data and supports reporting against defined indicators, and (ii) a Green Product Information System (GPIS-II), which provides enabling resources such as GPP guidelines, catalogues of certified products, and reference materials including good practice examples. Collectively, these platforms constitute an integrated digital architecture that supports both operational procurement and systematic, indicator-based monitoring of GPP implementation.

Korea's reporting practice demonstrates high levels of institutional coverage and compliance. In addition to compliance and procurement volume/value metrics, South Korea also reports on estimated sustainability outcomes associated with GPP implementation. These include reductions in CO₂-equivalent emissions, estimates of economic benefits derived from avoided environmental impacts, and indicators related to employment generation attributable to GPP-supported markets.

The impact estimation methodology is led by KEITI and is analytically different from the operational monitoring functions performed through KONEPS and GPIS-I. Procurement data are captured through KONEPS for centralised purchases and through GPIS-I and related procurement reporting channels for decentralised procurement. Environmental impact reductions (including CO₂ emissions) are then estimated by comparing proxy eco-labelled products with proxy conventional products across a defined set of product categories, using parameters drawn from Korea's national life-cycle inventory database. The proxy eco-labelled product is typically represented by the average performance of products meeting Korea Eco-label criteria for a given category, while the proxy conventional product reflects the average performance of products not meeting the ecolabel thresholds. Depending on data availability by category, the methodology estimates a range of impact dimensions beyond GHG emissions, including reductions in toxic substances, resource and energy savings, recyclability, noise reduction, eco-design-related improvements, reduced ecosystem toxicity, and reductions in indoor and outdoor air pollutants, among other indicators.

Economic savings associated with reduced environmental impacts are estimated in monetary terms using a two-step calculation approach: first, an average economic saving per unit is derived by applying economic conversion factors to the differential environmental performance between green and non-green proxies; second, annual savings are estimated by multiplying the per-unit saving by the total number of products purchased during the year within the relevant product group. The Ministry of Environment and KEITI publish consolidated results and estimated benefits on an annual basis.

Overall, South Korea's GPP monitoring model can be characterized as a two-tier system. **KONEPS and GPIS-I** provide the foundational digital infrastructure for standardized data capture, routine indicator reporting on procurement volumes and expenditure and compliance monitoring. KEITI's impact assessment framework then translates procurement data into estimated environmental and socio-economic outcomes using specialised methodologies and external datasets (life-cycle inventory data and economic conversion factors). This separation of functions allows Korea to maintain robust administrative monitoring while also producing quantified outcome estimates that support policy accountability and communication of GPP benefits.

TABLE 1: Summary of Approaches for Using e-GP System for G/SPP Implementation and Monitoring

Country	Core e-GP Mechanism	Key Monitoring Features	Primary Learning
South Korea	Mandatory price preference for registered green products in KONEPS	Integrated real-time data capture for volume/value tracking; separate impact assessment tool	System as a market enabler
China	Embedded CLP and ECP lists and price discount preference in national platform	Tracks procurement volume/ share against lists; estimates benefits via a proxy comparison	System as a market enabler
Ireland	GPP Criteria Search Tool; mandatory reporting via eForms (under implementation)	Hybrid model; institutional annual reports	Hybrid monitoring approach
Denmark/ Netherlands	Responsible Purchaser portal and SPP Criteria Tool	DuboCalc for carbon emission; Invoice data analysis for carbon footprint	Hybrid monitoring approach
Netherlands/ Ireland	Centralised criteria library with CPV coding and ambition levels	Systematic analysis of tenders using sampling of CPV codes	Criticality of standards
Netherlands	SPP Criteria Tool as an advisory aid, giving users flexibility for customization	Procurers must select/ verify criteria; tool prevent indiscriminate use	Guidance vs discretion
Japan / Malaysia	JGP system enforces specs; ePerolehan is infrastructure.	Manual/standardized template reporting to a central ministry (MOEJ, MGTC).	Supportive ecosystem

3.3 Key Observations from International Experience

The summary of different approaches employed by countries for SPP implementation and monitoring is given in Table 1. The discussion in the above sections further demonstrates that countries have leveraged their e-GP system differently for SPP, from powerful enforcement engines to essential facilitation tools. The Table 2 summarises different approaches for leveraging e-GP system for GPP implementation and monitoring.

TABLE 2: Different Levels of Integration of e-GP System for SPP

Integration Level	Model	Primary Mechanism	Countries
Foundational	Infrastructure with Policy	e-GP platform exists; SPP driven by separate policy	Malaysia, Slovenia, India
Medium (External Facilitation)	Standalone Guidance Portal	Separate platform with copy-paste criteria libraries	Netherlands, Denmark
Medium (System Facilitated)	Guidance and Compliance Tool	Integrated criteria search, mandatory reporting template	Ireland, Japan
High (System-Enforced)	Mandatory Market Shaping	Automated price preferences, mandatory product lists	China, South Korea

Despite these differences, the international experiences present some remarkable learnings that could serve as a model to design an e-GP system for SPP implementation and its associated M&E framework. The key learnings from these experiences are discussed below.

In summary, the key learnings are to:

- Provide procurement entities with pre-approved, ready-to-use sustainability requirements that can be easily incorporated into bidding documents.
- Have sustainability as a default and enforceable feature of the e-GP workflow.
- Credible monitoring and evaluation (M&E) system is built on transaction-level data capture embedded within the procurement workflow.
- Separate administrative monitoring of uptake and compliance from more complex impact estimation
- Success of e-GP-enabled SPP depends fundamentally on data architecture

Global and regional experiences show that the most effective way to translate SPP policy into day-to-day procurement practice is to provide procuring entities with pre-approved, ready-to-use sustainability requirements that can be easily incorporated into bidding documents. Countries such as Denmark, Ireland, and the Netherlands have achieved higher consistency in SPP implementation by maintaining digital criteria libraries organised by product categories and differentiated by ambition level (e.g., “core” versus “comprehensive”). This essentially requires

- i. a uniform categorisation of products or services such as CPV codes or nationally defined product/service item code and
- ii. standardised libraries of environmental and social sustainability criteria and verification methods that procurers can select from dropdown list to apply sustainable or green criteria during bid preparation.

The platforms allow procurers to quickly identify sector-specific technical specifications, award criteria, and contract clauses. For a country, this means developing a national GPP criteria repository and link it to its e-GP system. This repository needs to be organised by priority categories and aligned with national standards and/or Ecolabel schemes, enabling procuring entities to easily and consistently apply sustainability requirements.

A **second** learning is that SPP adoption accelerates when sustainability is designed as a default and enforceable feature of the e-GP workflow. Several systems demonstrate how e-GP can operationalise mandatory requirements by prompting or requiring procurers to select products from approved green lists, embedding sustainability requirements into standard templates, and requiring suppliers to declare compliance with verifiable evidence. China and South Korea illustrate the power of integrating certified product catalogues and policy rules directly into procurement transactions, ensuring that procurers do not need to reinvent criteria for each tender and that sustainability is not dependent on individual capacity or motivation. For a country, this implies that it should progressively move from a guidance-based approach for SPP implementation to a system-enabled approach, particularly for priority product and service categories where national policy has defined minimum requirements.

Third, international practice demonstrates that credible monitoring and evaluation (M&E) is built on transaction-level data capture embedded within the procurement process. Ireland’s evolution toward mandatory GPP declarations within eForms, and Korea’s ability to produce comprehensive monitoring outputs through KONEPS, highlight that a strong national monitoring system depends on standardised data fields such as GPP tagging, criteria type, verification approach, and award basis captured directly during tender preparation, evaluation, contract award and contract execution. For each country, the key implication is that SPP monitoring will be significantly more robust and less burdensome if an e-GP system records sustainability related information in structured fields instead of leaving it hidden in attachments or narrative descriptions.

Fourth, the country experiences demonstrate the importance of separating administrative monitoring of uptake and compliance from more complex impact estimation and adopting a pragmatic, phased approach for quantification of benefits. Many countries initially establish national reporting on the volume and value of green procurement, coverage by entities and categories, and compliance with mandatory requirements, before expanding toward estimates of GHG reductions or resource savings using externally validated datasets and calculators. A common sequencing is:

- **Institutional uptake** indicators (procurement plan; coverage by entities; coverage of SPP training).
- **Output** Indicators (value/number/percentage of green procurement; criteria applied; verification method), and only then

- **Outcome/impact estimation** (CO₂, energy savings, pollution reductions, economic savings, jobs), typically for a subset of categories where baselines, data availability and conversion factors supports calculation of impacts (South Korea; Massachusetts; selective approaches in Japan/China/Netherlands). The reduction in GHG emission is the most common environmental benefit measured and communicated by different countries.

There also appears a trend of monitoring progress of a SPP implementation at central level first in a few ministries as a pilot level before rolling out to provinces and local government levels. This sequencing enables early wins, finetuning the monitoring framework during pilot stage, and supports progressive expansion of SPP programme as criteria development, data quality, and procurement officials' SPP skills improve.

Massachusetts, Japan, Slovenia, and South Korea illustrate that impact estimation is most credible when it focuses on selected product groups where methodologies are mature and data are available, rather than attempting to quantify all impacts across all categories. For a country, this suggests adopting a two-tier M&E architecture: an initial tier based on e-GP transaction data to measure uptake and compliance across priority categories, followed by a second tier that estimates environmental outcomes for a smaller number of categories where robust calculation methods can be applied.

Fifth, global experience confirms that the success of e-GP-enabled SPP depends fundamentally on data architecture specifically on consistent classification of procurement categories, adequate granularity of item-level data, and traceable verification information. Denmark's carbon footprint methodology demonstrates how powerful procurement analytics can be when invoice and line-item data are available, while also highlighting risks when classifications do not align or expenditure-based approaches distort results. The Netherlands and Slovenia further demonstrate that monitoring quality depends on how well tenders and contracts are coded, searchable, and extractable for analysis, and that contract-level tools can strengthen delivery by making environmental commitments contractually binding. For a country, this underlines the need to define an appropriate SPP minimum dataset in an e-GP system covering category classification, standard sustainability attributes, verification fields (e.g., certificate type, issuer, validity), and contract-stage performance reporting to ensure that monitoring is accurate, comparable, and auditable over time.

Finally, international experiences shows that robust monitoring systems typically include the following governance elements:

- **Designated institutional custodian(s)** responsible for consolidating results, validating data quality, and producing official performance reports (e.g., MGTC in Malaysia, KEITI in South Korea, or a Ministry of Environment/Finance equivalent).
- **Clearly defined reporting cycles and frequencies**, commonly combining more frequent internal reporting (e.g., monthly or quarterly dashboards for management) with periodic consolidated reporting (e.g., biannual or annual national reports for oversight and public accountability).
- **A clearly defined scope of monitoring**, specifying which entities are covered (central government, sub-national entities, SOEs), which procurement stages are tracked (tender-stage vs. award and contract management), and which categories are included (priority categories vs. full coverage), including any phased expansion plan.
- **Oversight and steering mechanisms** (e.g., inter-ministerial steering committees or technical working groups) to review results, address implementation bottlenecks, agree corrective measures, and guide system and policy refinements.
- **Protocols for publication of results**, at least at an aggregate level, to reinforce transparency, strengthen accountability, and provide market signals that incentivise investment in sustainable products and practices.
- **Methods for estimating benefits**: All approaches to estimating the benefits of SPP are based on the number of products and/or used in service and work contracts. While South Korea, Japan and State of Massachusetts use total procurement data, the Netherlands obtain the information for samples and extrapolates it to the total annual numbers. Further, they employ their own internal system/method to estimate the benefits of green products and services.

In conclusion, these learnings provide a clear set of priorities for any country embarking on using e-GP system for SPP implementation, measurement and performance monitoring.

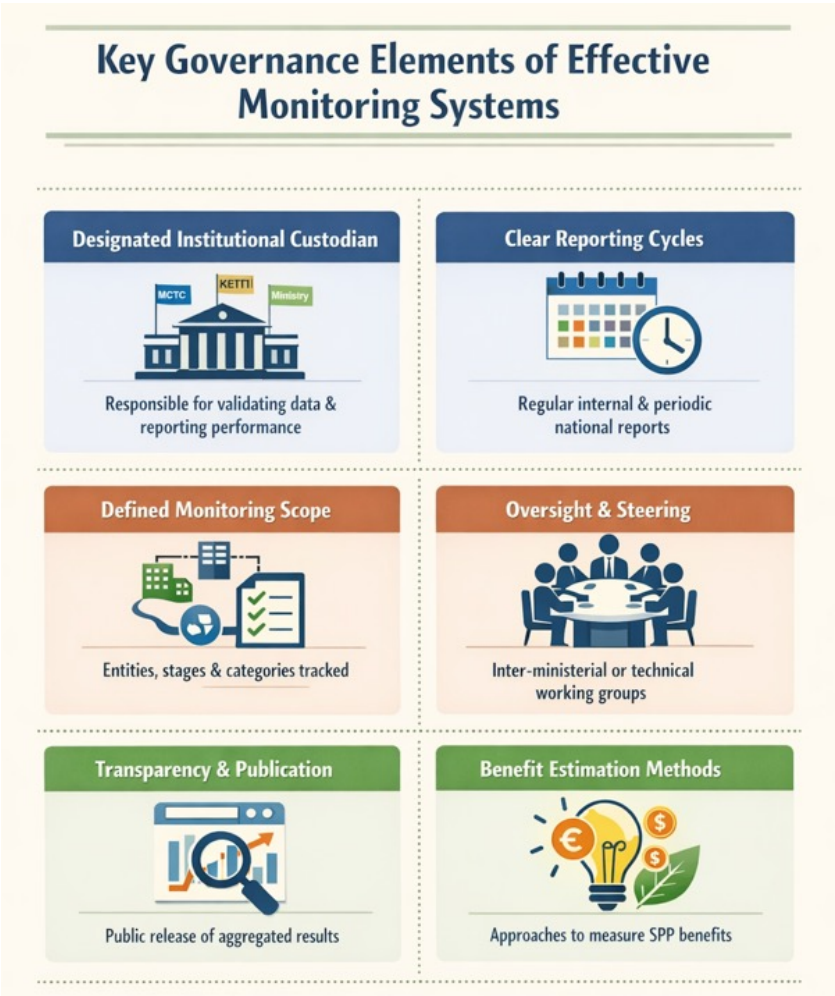


FIG 3: Key Governance Elements of an Effective SPP Monitoring System (AI generated)

4. Key Characteristics of e-Government Procurement Systems

An e-GP system serves as a cornerstone of the government's strategy to modernise state management, enhance transparency, and foster a competitive market. The system is designed to streamline the entire procurement lifecycle from procurement planning and tender notice to bid submission, evaluation, contract award, and e-payment onto a single, unified digital portal. The primary aims of a typical e-GP system are to reduce transaction costs, eliminate information asymmetries, and provide equal access and opportunities to all businesses, especially small and medium-sized enterprises, thereby strengthening the foundational principles of efficiency, fairness, and openness in public spending.

Moving beyond its initial role as an automation tool for traditional procurement, an e-GP system is increasingly recognized as a strategic public financial management infrastructure with the potential to institutionalise broader policy goals at scale. The system's evolution reflects a global shift towards viewing e-procurement as a system enabler, capable of systematically embedding sustainability and green requirements into standardised digital workflows, templates, and validations. Thus, e-GP system is uniquely positioned to translate regulatory intent into uniform practices, reducing reliance on individual capability and making compliance a routine feature of the procurement process.

The subsequent sections provide a detailed analysis of a system's key architectural and functional features. This analysis evaluates feasibility of integration of sustainability criteria into procurement decisions, and the effective monitoring of SPP progress across ministries, provinces, and procuring entities.

4.1 System Architecture of a Typical e-GP System

A typical e-Procurement System in any country functions as an integrated platform having modular architecture to deliver e-procurement services. The platform works as the primary entry layer and the gateway for all procurement activities, designed to provide a consistent user environment and to align menus and workflows with procurement regulations. The System Requirement Specification (SRS) further specifies operation principles and controls, supporting accessibility for a broad user base.

At system level, an e-GP system may have several sub-systems such as e-Bidding, e-Shopping Mall, e-Contract, e-Payment, User Management, Item List, e-Document, e-Guarantee, Help Desk, and Supplier's Performance Management. This modular structure allows specific functions to be enhanced individually while still enabling integration across the entire system. Typically, the SRS envisages a scalable architecture and emphasises integration across modules so that key procurement data and workflow outputs such as procurement planning, invitations, bid results, guarantees, payment-related processes, feedback, and settlement can be handled within the system.

Functionally, an e-GP system supports a broad span of the procurement lifecycle, including both pre- and post- contract award processes. For example, the e-Contract sub-system may be designed to cover contract and quotation request management, contract award processing (including amendments), and contract performance monitoring, including notifications, deadline management, and confirmation of implementation results. Further, the e-Contract sub-system may have in-built security features such as digital signatures and encryption to enable secure sending, receiving, and signing of contracts and electronic documents. The e-Document sub-system complements this by specifying secure electronic document management and distribution, including authentication mechanisms (e.g., PKI or credential-based sign-on), timestamps, and the use of standard information technologies and protocols, with an emphasis on security and reliability.

A particularly relevant enabling component for integrating sustainability is the Item List sub-system, which is specified to manage product/item classifications and associated information. Normally the SRS includes functions such as workflows for adding new products, maintaining item history, and generating statistics and provides a structural basis for standardised categorisation and consistent reuse of item information across procurement processes.

Finally, an e-GP system not only acts as a transaction platform but also as a platform capable of supporting oversight through analytics. It supports business intelligence and multi-dimensional data analysis across procurement dimensions including bidders, procuring entities, bidding forms and methods, capital, goods/deliverables, contract types, time, procurement plans, appraisal and approvals, and bidding violations. In addition, the SRS typically provides for connectivity with external systems and stakeholders such as online business registration, authentication services, payment systems, the State Treasury, banks, and other ministries/agencies, consistent with an integrated national platform approach.

To sum up, a good e-GP system already contains several architectural characteristics that are typically associated with systems capable of supporting policy mainstreaming and performance oversight, namely a portal-centric design, clearly defined modular sub-systems, an item classification backbone, secure e-document and e-contract capabilities, user support infrastructure, and an explicit requirement for multi-dimensional business intelligence and analytics.

4.2 Leveraging Existing e-GP Core Modules

A typical e-GP system is already designed as an end-to-end, workflow-driven e-procurement platform that can act as a backbone for mainstreaming sustainability into procurement practice. The portal acts as a single gateway for both purchasers and suppliers to participate in core procurement activities, supported by integrated search and cross-module navigation. This primary data source characteristic is a fundamental strength for SPP, because sustainability requirements only become measurable at scale when they are embedded into routine transactions and captured consistently across procuring entities. Rather than building a parallel tracking framework from scratch, this section analyzes how five core, native sub-systems—Item Classification registries, e-Document management, e-Contracting workflows, Bidder Performance modules, and e-Catalogues—can be leveraged as structural foundations to capture and standardize SPP data.

i. Strong foundations for standardisation and control of procurement data

A core enabler for SPP is the ability to standardise what is specified, what is evaluated, and what is reported. An Item List sub-system manages item classifications and item attributes, and provides history and statistics by status/classification/attributes. This sub-system can be extended to encode sustainability-relevant parameters (e.g., energy performance, recycled content, hazardous substances flags) as structured attributes to facilitate SPP implementation and monitoring.

ii. Embedded capability to operationalise evidence-based verification

The e-Document sub-system is designed to manage electronic forms, standardised electronic documents by type/version/status, and to ensure confidentiality, formatting, time stamping, and security via e-signature and encryption/decryption. For SPP, this sub-system is a key strength as sustainability compliance is typically demonstrated through certifications, test reports, declarations, and audit documents. A system designed to structure, secure, index, and trace such documents materially strengthens auditability and post-award verification potential.

iii. Contracting and post-award workflow

An e-GP system typically has an e-Contract sub-system that supports contract signing, tracking of performance and milestones and contract statistics. This lifecycle functionality is important for SPP because sustainability outcomes are frequently realised during contract implementation phase (e.g., delivery of certified products, reporting of labour and safety practices, waste management plans, emissions monitoring). This feature can therefore facilitate contract-level sustainability deliverables and performance reporting.

iv. Supplier capability and performance information

The Bidder Performance Management sub-system is explicitly intended to support assessment of contractor capacity and pre-qualification, using online information sources including contract completion/performance and reputational information, with query and statistics functions and disclosure of contractor performance. This sub-system can easily be updated to include sustainability-related performance dimensions.

v. e-Shopping/e-catalogue functionality

The e-Shopping sub-system is designed to manage product information including product specifications and standards, supplier information (including capacity and product quality), and to support searching and statistics of products/orders/unit-price contracts, as well as inspection management within ordering. These capabilities can further be enhanced to include standard sustainability requirements applicable to frequently purchased goods and framework contracts.

Taken together, the SRS of a typical good e-GP system is designed as a national transaction platform with standardisation (item/attribute management), verifiable documentation controls (e-forms, versioning, time stamps, signatures), supplier capability/performance data, and post-award contract workflows. This is a strong institutional foundation for leveraging e-GP system for SPP mainstreaming because it reduces the effort required to make targeted enhancements than developing a parallel system or manual reporting structures to monitor progress of SPP implementation.

4.3 Configuring e-GP Workflows for SPP Data

Typically, an e-GP system is designed as a scalable, modular platform to support cross-module data integration and comprehensive oversight analytics. The system functions and related data are linked to facilitate management and inquiry across procurement processes. It also has business intelligence and multi-dimensional analysis functionality across core procurement dimensions. The principal updates required to make an e-GP system fit for SPP implementation and monitoring relate to the provisions of *explicit sustainability-specific data objects, workflow controls, and indicator logic* needed to generate routine, transaction-backed evidence of SPP uptake and outcomes. This section defines the precise functional requirements, custom workflow logic, and specific data-field updates—such as mandatory sustainability tags, automated validation rules, and verification registry linkages—required to turn standard procurement workflows into operational tracking mechanisms for SPP policy enforcement.

i. Centralised sustainability criteria library and rules-based template

Global good practice increasingly relies on controlled criteria libraries (standard specifications, award criteria, and contract clauses) that can be selected within the system and inserted into tender documents in a structured manner.

To enable SPP on e-GP, the SRS would have to / need to set out sustainability-specific criteria objects (e.g., criteria IDs, versioning, category mapping, core/comprehensive levels) or decision rules that would prompt or enforce their use for eligible categories.

ii. Functionality for capturing Sustainability verification metadata

The SRS of an e-GP system needs to define sustainability verification fields (e.g., certificate type/number, issuer, validity, test report references, ecolabel attributes) as structured data elements. It would enable automated compliance checking, contract-level reporting, and risk-based audit selection for SPP.

iii. Life-cycle costing and sustainability-weighted evaluation support

A significant impact of SPP implementation depends on the choice of bid evaluation method (e.g., LCC inputs, MEAT scoring structures with environmental/social criteria).

Typically, a SRS provides for broad procurement workflows across planning-tendering-award-contract processes. But to enable evaluation based on LCC, it would also require LCC data entry structures, validation routines, or standard sustainability scoring templates that would allow procurers to compare and evaluate consistently across tenders and award the most appropriate bid.

iv. Explicit G/SPP tagging and classification model

Effective monitoring typically requires structured identification of whether a procurement is “green/sustainable,” at what ambition level, and against which policy/category reference it is applied.

While a SRS typically mandates multi-dimensional analytics, the listed dimensions would require to be updated to include sustainability as a defined reporting dimension (e.g., SPP flag, criteria type, verification route). Such structured tagging is required to track sustainability uptake and aggregate progress consistently across entities, categories, and time periods through system reporting.

v. Contract-stage sustainability deliverable

The e-Contract sub-system usually has functionality to provide contract forms, store contract data, provide contract progress information and support searches/displays of contract records. The SRS would need to be updated to define and capture sustainability deliverables/KPIs as structured contract management objects (e.g., reporting schedules, performance evidence requirements, non-compliance handling, sustainability performance records), which is typically needed to report progress against outcome indicators.

vi. Integrate sustainability attributes as part of Item classification

The Item List sub-system typically includes item classification management, item attributes management, and management of “standard attributes,” and it provides history/statistics. The SRS would need to define sustainability attribute sets (e.g., energy performance, recycled content, hazardous substances flags) or map them to any recognised sustainability schemes to enable the system’s readiness to support consistent sustainability identification and reporting.

Overall, the SRS of a good e-GP system provides a solid platform basis for digitising procurement and generating cross-cutting analytics. However, it would need to be updated to specify the sustainability-oriented data, objects and workflow controls needed for a SPP implementation and monitoring. Incorporating these features and functionalities means introducing structured sustainability fields (tagging, criteria references, verification metadata, and contract deliverable reporting) into existing e-GP workflows for SPP implementation and monitoring.

5. Recommendations on Enhancing e-GP System for G/SPP Implementation & Monitoring

The global experiences of leveraging e-GP system suggest that critical elements necessary to support **SPP implementation** and monitoring through an e-GP system relate primarily to how effectively the system converts policy intent into routine procurement behaviour. The most consistently observed enabler is a strong policy-to-practice translation layer, typically a controlled library of sustainable bid criteria, standard clauses, and templates that procurers can insert directly into tender documents. This reduces drafting burden, improves consistency, and makes inclusion of sustainability requirements at scale possible across procuring entities.

A second critical element for implementation is the use of system design to make sustainability the default option. Leading systems operationalise this through prompts, mandatory selections for priority categories, and automated preference logic that nudges procurers to select sustainability options during planning and bid preparation. A third implementation enabler is to design the e-GP system in a way that enable suppliers to respond against sustainability requirements, submit test reports, and other pieces of evidence in support of compliance in a streamlined manner. The fourth enabler for implementation is to design an e-GP system in such a way that supports procurers to evaluate sustainability requirements at different stages of the procurement cycle.

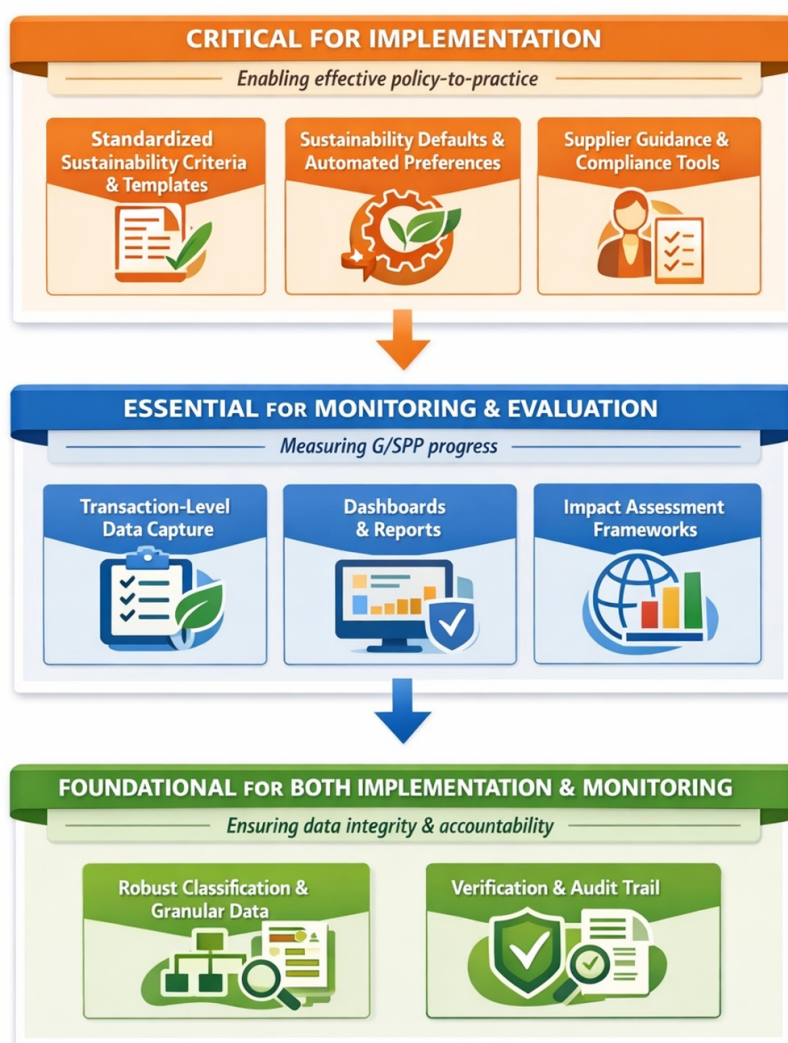


FIG 4: Essential Elements in e-GP System for SPP Implementation & Monitoring (AI generated)

The elements that are critical for **monitoring and evaluation of SPP progress** are those that allow sustainability uptake and performance to be measured using routine, transaction-backed data. The central feature of e-GP is to automatically capture SPP-related information at transaction level such as whether sustainability criteria were applied, the type and ambition level of criteria used, the relevant category mapping, and the verification methods so that performance can be aggregated consistently across entities, sectors, priority categories and time. This is complemented by system-enabled reporting outputs against pre-decided indicators: dashboards, standard reports, and automated extraction mechanisms, which reduce administrative burden while improving data quality and timeliness.

Global experience also highlights the importance of a pragmatic two-tier measurement approach. Most countries first establish national monitoring of uptake and compliance (institutional and output indicators) and then estimate environmental or socio-economic impacts only for selected categories where calculation methods and underlying datasets are available. This sequencing helps protect methodological integrity and avoids over-claiming results either due to non-availability of proven methodology or insufficient data.

Finally, several foundational elements are essential for **both implementation and monitoring**, because they underpin the system's ability to apply sustainability requirements consistently and to measure them credibly. First, an e-GP system must have a robust classification backbone and sufficient granularity of data, typically category coding and, ideally, item-level detail, to ensure the right sustainability requirements are applied to the right product/service category and to enable meaningful aggregation and benchmarking. Second, verification and auditability must be built into the system architecture so that reporting is automatic and credible. Implementation requires suppliers to demonstrate compliance, while monitoring requires the system to record how compliance was verified in a traceable way. Strong e-GP systems therefore link sustainability requirements to structured verification metadata and evidence repositories, enabling risk-based oversight, consistent reporting, and credible claims on G/SPP progress and outcomes

5.1 Recommendations for Transforming e-GP into an Enabler for SPP

A good e-GP system typically has several features and functionalities such as defined sub-systems, cross-module data linkages, scalable architecture and monitoring functionality. The transformation required to support SPP implementation and monitoring as per the procurement regulations is therefore not to design a fresh e-GP system but a targeted enhancement in the current system that introduces sustainability as *"system-native" data and workflow logic* so that sustainability requirements are easier to apply and measure through routine, transaction-backed evidences.

Therefore, recommendations made below are to transform an e-GP system into an effective enabler for SPP implementation and monitoring.

I. Policy on SPP Implementation, Monitoring & Evaluation

The provisions related to sustainability in procurement regulations needs to be communicated to procurers to facilitate its integration into a day-to-day procurement case. When such provisions are not clearly spelt out in the procurement regulations, it may become important to issue a comprehensive policy that functions as an integrated, actionable framework to systematically transform sustainability goals into standard procurement practice. Building on the sustainability requirements mandated in a legal framework, the policy must clarify what could be treated as sustainability obligations for public bodies to integrate them in procurement cases. This mandate must be operationalised through well-defined priority sectors supported by centralised, ready-to-use technical criteria and verification methods, wherever possible. To ensure consistent implementation, the policy must mandate the integration of these criteria into core e-GP procurement workflows from planning to contract management supported by dedicated digital tools and capacity-building programs for procurers. It should specifically dwell on monitoring and reporting framework to build in accountability for implementation and continuous improvement through a set of performance indicators. Most importantly, the policy should clarify institutional mechanisms for a periodic review and update of targets, criteria, and methods in line with technological advances and evolving national sustainability objectives, ensuring the policy remains a dynamic driver of market transformation and environmental stewardship.

The Policy should comprise at least the following:

- i. Clarification on provisions related to sustainability requirements and how they are going to be implemented by contracting authorities in various levels of governance.
- ii. The Policy should have specific section on M&E of SPP progress that defines:
 - The purpose of SPP M&E along with clear institutional set-up and responsibilities;
 - Scope (entities, thresholds, priority categories, and which procurement stages are tracked);
 - Reporting frequency;
 - A phased rollout approach.
- iii. Assign clear responsibilities for:
 - Defining centralised sustainable bidding requirements and verification methods;
 - Data capture;
 - Validation (designated custodian);
 - Aggregation and publication (national lead);
 - Corrective action (oversight mechanism); and
 - e-GP integration.
- iv. Approve a Tiered indicator structure (Tier 1: institutional; Tier 2: uptake/output; Tier 3: outcomes), so that implementation can start at the earliest with Tier 1 Indicators and progressively expand to Tier 2 and Tier 3 indicators.

A catalogue of Tier 1, 2 & 3 indicators along with method, data source and potential frequency is provided in Annexure I. It is recommended that a country should at least prioritise the following that are essential for communicating progress against SDG target 12.7.1 as per the methodology developed by UNEP.

However, it is recommended that a country should at least prioritise the following that are essential for communicating progress against SDG target 12.7.1 as per the methodology developed by UNEP.

- Issue SPP Policy and Implementation Manual and communicate to all Procurement Entities;
- Issue SPP Strategic Action Plan;
- Update e-GP system in alignment with the SPP Policy;
- Issue a list of priority product/services categories targeted for SPP implementation; and
- Integrate SPP curriculum with Procurement Training and Certification Program.

II. Defining “Minimum Sustainability requirements” within e-GP workflows

The most critical reform is to define a minimum set of structured sustainability requirement fields and embed them into e-GP system at the points where decisions are made and recorded (planning, tender preparation, evaluation, award, and contract management). This should include, at a minimum: (i) a Sustainable Bidding tag (YES/NO) and category applicability; (ii) the procurement stage of sustainability requirement (specification / qualification / award / contract); (iii) verification route (e.g., third-party certificate, test report, ecolabel, self-declaration, product’s technical leaflet) and reference; and (iv) whether contract-stage sustainability deliverables are required and how they will be verified.

III. Creating a Centralised Sustainability Criteria Library and link it to e-GP system

International experience shows that the fastest route to scale is enabling procurers to select pre-approved, ready-to-use sustainable bidding criteria. Therefore, an effective e-GP system should have a Sustainability Criteria Library with version control and category mapping, providing criteria sets for: technical specifications, award criteria, and contract clauses. The library should explicitly differentiate “minimum” and “advanced” options to match market readiness. Practically, the library should be integrated into e-Bidding and the e-document modules so that the selected criteria become part of the transaction record supporting both consistent application and monitoring.

IV. Extending the Item List sub-system to capture Sustainability Requirements

The **Item List** sub-system in the e-GP system shall extend Item List attributes to include sustainable bidding metadata appropriate to priority categories (e.g., ecolabel/certification reference fields and validity; efficiency class; recycled content thresholds; restricted substances flags, where relevant). This would provide category-based prompt to procurers of relevant criteria during tender preparation and reporting by category/item group without manual intervention.

V. Enhancing Capability to Capture Evaluation and Verification

For SPP to be measurable, evaluation decisions must be captured in a structured form. An e-GP system should therefore support: (i) structured entry of sustainability-related award criteria, scoring; (ii) explicit pass/fail compliance checks for mandatory green specifications; and (iii) structured capture of verification metadata (evidence type, issuer, validity, document reference). The objective is to ensure that when sustainability is applied, the e-GP system is designed in a way that can facilitate bid evaluation, monitoring and evaluation.

VI. Enhancing e-Contract Module to Monitor Sustainability Deliverables

The e-Contract functions in the e-GP system should be enhanced to capture sustainability deliverables as per contract, including deliverable type, reporting frequency, evidence requirements, milestone dates, and completion/acceptance fields. This ensures addressing a common implementation gap where sustainability is included in tender documents but not verified during delivery.

VII. Operationalising SPP Monitoring using Dashboards

Most e-GP systems have multi-dimensional analysis across procurement dimensions for oversight and management. An e-GP system should extend this functionality and outputs to include SPP indicators, such as: value/number/share of G/SPP transactions; category coverage; criteria usage patterns; verification quality (share supported by third-party evidence); and contract-stage delivery status for sustainability deliverables. These dashboards should be designed both for monitoring progress by central oversight bodies and for providing feedback to procuring entities to improve compliance and learning.

VIII. Strengthening Interoperability with Verification Sources

The SRS of any good e-GP system provides functionalities for connectivity with authentication, payment systems, State Treasury, banks, and other ministries/agencies. Building on this, an e-GP system should be updated to ensure interoperability with sustainable bidding requirements and verification sources (e.g., product certification databases, ecolabel registries, supplier certification records) to validate claims and reduce manual checking. Even partial interoperability (e.g., certificate number validation) can substantially improve integrity and has potential to lower administrative cost.

5.2 Updating the System Requirement Specification (SRS)

To mainstream SPP and generate credible, transaction-backed evidence of implementation progress, the SRS of the existing e-GP system should clearly, completely, and unambiguously define the business and technical requirements expected from the system developer and operator. The SRS should ensure that sustainability bidding requirement is embedded as “system-native” data and workflow logic across the full procurement cycle. The essential SRS features that need to be updated to make e-GP system capable of enabling SPP implementation and monitoring in country are summarised below.

a) Procurement planning and market analysis

- The Procurement Plan template should include a mandatory field enabling procuring entities to indicate whether the planned procurement requires environmental and/or social criteria (Sustainable Bidding flag), including the applicable sustainability themes where relevant;
- The Procurement Plan should support market analysis inputs and enable estimation using a life-cycle cost (LCC) approach, including capture of key cost components and assumptions and linkages to approved LCC tools where applicable.

b) Technical specifications and sustainable bidding criteria integration

- An e-GP system should support the creation, maintenance, and governance of a Sustainability Criteria Library covering priority goods, works, and services categories with significant environmental and/or social impacts. The Library should include minimum (mandatory) specifications, selection/qualification criteria, award criteria, contract performance clauses, and standard verification methods to support bidder claims;
- The SRS should define a version-control and governance mechanism allowing periodic updates (e.g., annually) and ad-hoc updates as national standards, ecolabels, and market practices evolve;
- When preparing tender notices and bidding documents, users should be able to select relevant environmental and social criteria from drop-down menus linked to the Library. To reduce errors and increase usability, when a procurer selects a category/product group, the system should display guided selection support (e.g., pop-up or side panel) showing applicable criteria packages and corresponding verification routes;
- Where necessary, the system should allow procurers to draft and insert custom sustainability requirements, while still capturing structured metadata (e.g., sustainability theme, requirement type, indicator type, and verification route);
- Selecting criteria from the Library should automatically tag the procurement as a “G/SPP Tender”; where custom criteria are used, the system should enable manual tagging and require basic structured justification;
- An e-GP should display a visible identifier (e.g., “SPP” label) in tender notices and search results to signal sustainability requirements to bidders and enhance market responsiveness;
- The system should support structured sustainability attributes, as relevant to the category, in tender requirements, including energy efficiency thresholds, waste reduction and take-back obligations, recycled content requirements, carbon footprint disclosure or reduction measures, subcontracting targets, and social indicators such as labour conditions and local economic participation;
- For categories where sustainable bidding standards are mandatory under national regulatory frameworks, the system should provide alerts and guided prompts during tender preparation to reduce omission risk and strengthen compliance;
- Where Type I ecolabels or recognised voluntary sustainability standards exist for a category, an e-GP system should prompt users to select the applicable label/standard and require bidders to submit corresponding evidence. Where registry connectivity exists, the system should support automated validation (e.g., certificate number, issuer, validity); otherwise, it should enforce completeness checks and flag exceptions for manual review.

c) Bidder selection and supplier management

- An e-GP system should maintain structured historical records of supplier performance in SPP tenders and contracts based on defined sustainability metrics and display relevant performance information during decision-making;
- The system should alert users when a bidder is listed as banned/debarred by the competent authority for violations of environmental or social laws, where such exclusion is permitted under applicable rules.

d) Bid evaluation

- The system should allow authorised users to select and configure the applicable evaluation methodology, including lowest cost/lowest evaluated price, LCC-based evaluation, price–quality ratio, rated criteria, and MEAT/QCBS approaches, consistent with country’s procurement regulations;
- For rated/MEAT/QCBS methods, an e-GP system should provide a structured Tender template requiring users to define criteria, scoring scales, and weightings, including sustainability-related criteria, and require bidders to respond through structured fields to enable comparability and downstream analytics;

- The system should validate the completeness and internal coherence of the Tender template based on tender metadata and the selected evaluation method. Configurable controls should prevent sustainability weightings that exceed limits permitted under the regulatory framework;
- For LCC evaluation, the system should allow bidders to enter relevant cost components (e.g., purchase, installation, operation, maintenance and repair, spare parts, training, take-back/end-of-life costs) and link to approved LCC tools where available;
- Where multi-envelope procedures apply (qualification/technical/financial), the system should support envelope-based questionnaires and encrypt bids by envelope to enable staged opening;
- Where evaluation is conducted offline or in a hybrid mode, the system should allow authorised users to record final consensus scores for each criterion and each bid, preserving a complete audit trail;
- Where policy supports, the e-GP system should enable optional evaluation using shadow carbon pricing and provide linkages to approved emission factors based on national life-cycle inventory datasets;
- Evaluators should be required to provide justifications for scores assigned to sustainability criteria and record amendments with timestamps and user IDs to strengthen transparency
- The system should generate an Evaluation Report documenting the evaluation process, applied criteria and weightings, assigned scores, and the award recommendation.

e) Contract terms and conditions

- After award, the system should enable authorised users to generate and publish contract award information and support selection of environmental and social contract conditions from a pre-approved clause library aligned with the Sustainable Bidding Criteria Library;
- The system should allow controlled configuration of sustainability clauses to match intended sustainability outcomes and contract context.

f) Contract monitoring, evaluation, and reporting

- An e-GP system should support audit and monitoring of all tenders and contracts tagged as SPP, including applied criteria, verification evidence, user actions, and compliance status. Reports should be exportable in user-friendly formats;
- The system should provide dashboards showing, at minimum: (i) number and value of SPP tenders/contracts and their share of total procurement; and (ii) disaggregation by goods/services/works, contracting authority, and administrative unit, including time-series benchmarking;
- Where green budget tagging exists or is planned within a country's public financial management systems, the SRS should provide for linkage of SPP transactions to relevant budget tags/heads to support coherent reporting on green investment;
- The system should progressively support indicators (Tier 1, 2 & 3) aligned to SPP circular objectives, including environmental benefits (e.g., GHG, energy, water, waste, toxic materials), economic benefits (e.g., life-cycle cost savings), and social benefits (e.g., awards to MSMEs, women-owned enterprises, disability-inclusive enterprises; jobs/training where contractually specified);
- The system should also support monitoring of institutionalisation, such as availability of SPP training modules, numbers trained, and number of priority categories with standard criteria packages.

g) Vendor registration and management

- Vendor registration should capture supplier attributes relevant to inclusive procurement and sustainability risk screening, including enterprise size (micro/small/medium/large), ownership attributes (e.g., women-owned, disability-inclusive, other recognised priority groups), relevant E&S certifications (e.g., ISO 14001, ISO 45001, SA 8000 or national equivalents), declarations of compliance with environmental laws and core labour standards, and acceptance of a Supplier Code of Conduct where applicable;
- The system should allow suppliers to register product information indicating compliance with Type I ecolabels or recognised VSS, supported by structured evidence uploads linked to item/category classification.

h) Emergency and exempted procurement cases

- An e-GP system should include a configurable mechanism to waive selected sustainability requirements in defined cases such as emergencies, natural calamities, or exempted procurement procedures, consistent with country's legal framework. Waivers should require structured justification and approval logging to preserve accountability.

i) Capacity building and user enablement

- The system should allow administrators to publish e-learning modules on SPP for different stakeholder groups via the e-GP portal and link training requirements to user profiles where relevant;
- An e-GP system should provide user dashboards showing progress against required and optional modules and management dashboards and exportable reports showing training uptake and completion by stakeholder category and contracting authority.

Different sub-systems of SRS in an e-GP system need to be updated to include the above-mentioned features and functionalities to ensure SPP mainstreaming and monitoring. However, it is suggested that the proposed updates in SRS must be reviewed by an e-GP expert and e-GP system administrator before embarking on any change.

5.3 Capacity Building and Change Management

Implementing the proposed SRS enhancements for embedding SPP functionality into an existing e-GP system will require a structured capacity-building and change-management programme that is sequenced with system releases and supported by clear institutional ownership. Beyond technical development, the Government will need a coordinated governance arrangement to translate policy intent into operational system rules. This governance function should be supported by practical implementation instruments, including standard operating procedures and user guidance on applying sustainability criteria across the procurement cycle, selecting permissible evaluation methods (lowest evaluated cost/price, life-cycle costing, price–quality ratio, MEAT/QCBS where applicable), and incorporating sustainability performance obligations into contract conditions and acceptance processes.

Capacity building should be role-based and integrated into e-GP workflows. Procuring entities will require hands-on training focused on (i) procurement planning and market analysis, including the use of LCC inputs and assumptions; (ii) selecting and applying sustainability criteria through the Sustainable Bidding Criteria Library and correctly recording verification evidence; (iii) configuring tender questionnaires, scoring scales and weightings for rated criteria/MEAT/QCBS approaches; and (iv) managing contract-stage sustainability deliverables, milestone reporting, and evidence-based acceptance. Suppliers will require targeted outreach to understand new tender requirements and data fields, comply with verification expectations (e.g., ecolabels/VSS, test reports, declarations), and complete enhanced supplier registration attributes relevant to inclusive procurement (e.g., SME classification, women-owned or disability-inclusive status). Oversight bodies and auditors will require dedicated training on dashboard interpretation, data validation protocols, exception handling, and the use of transaction-backed evidence to identify adoption gaps and integrity risks.

Change management should be delivered through phased pilots and iterative refinement aligned with the e-GP system release roadmap. A country should start with a small number of high-impact, market-ready categories and a limited set of pilot contracting authorities, then scale up once usability, compliance behaviour, and data quality are proven. During pilots, enhanced user support such as a dedicated helpdesk function, structured feedback mechanisms, and a practitioner community of practice should be established to resolve issues quickly and to refine templates, prompts, validation rules, and reporting outputs. Finally, adoption will be accelerated if the reform package includes clear instructions on mandatory fields, controlled use of waivers (e.g., for emergencies where permitted), routine performance feedback to contracting authorities through dashboards, and a proportionate accountability framework that links system usage to supervisory review and continuous improvement.

6. Model Implementation Roadmap for Integrating SPP into an e-GP system

This model implementation roadmap translates the recommended SPP framework into an adaptable framework suitable for countries at various stages of implementation. Instead of assuming a one-size-fits-all trajectory, it is designed as a baseline model that nations can benchmark against, customize, or jump into depending on their existing legal frameworks and e-GP system capabilities. For countries with mature digital infrastructure, it provides a pathway to maximize current SRS strengths—such as leveraging machine-readable exports, dashboard analytics, and standardized lifecycle tracking.

The roadmap is structured around four scalable phases based on global SPP M&E experiences, with specific deliverables detailed in Table 3. This modular setup allows advanced countries to skip early foundational steps and focus directly on advanced integration, while ensuring that the core prerequisite remains clear: sophisticated outcome/impact tracking should be deferred until underlying data capture methodologies and system integrations are robustly established.

TABLE 3: Model Roadmap for Establishing SPP Implementation and Monitoring Framework

Phase & timeline	Core objective	Priority actions (E-GP enhancements)	Key deliverables	Lead entity	Co-lead entities	Key dependencies / notes
Phase 0 (0–2 months)	Establish governance and technical foundations for system-enabled SPP.	• Issue SPP Policy, establish SPP Steering Committee and Technical Working Group (sustainable bidding, indicators, data standards, SRS change control); • Nominate a SPP M&E Custodian responsible for indicator definitions, validation rules, aggregation logic, and annual reporting; • Approve a SPP M&E Concept Note: purpose, scope (priority categories), indicator tiers, reporting frequency, publication approach, and confidentiality rules.	• ToRs and Steering Committee and TWG established; • Custodian appointed and operating procedures agreed; • Approved Concept Note and consolidated workplan.	Mistry of Finance/ Public Procurement Authority	• e-GP Directorate • Selected pilot contracting authorities • State audit	Executive endorsement of scope, first pilot categories, and minimum dataset; agreement on publication rules.
Phase 1 (0–6 months)	Make SPP uptake measurable and for contracting authorities	• Approve a national SPP tagging standard (e.g., ‘SPP tender’) with minimum evidence conditions and exceptions; • Define ‘Core’ and ‘Advanced’ sustainability criteria packages for initial priority categories; specify verification routes (eco-label, test report, certificate, declaration). • Develop a Sustainability Criteria Library and Contract Clause Library for 2–5 priority categories, with version control. • Define supplier attribute taxonomy for inclusive procurement (SME size class; women-owned; disability-inclusive enterprise; other priority groups) and evidence requirements.	• Sustainable Bidding tagging standard and indicator dictionary (Tier 1–2) approved; • Criteria, verification, and contract clause libraries published for pilot use; • Supplier attribute taxonomy and registration evidence checklist agreed; • Prototype dashboards and baseline report for pilots agreed.	Mistry of Finance/ Public Procurement Authority	• e-GP Directorate • Relevant sector agencies/ standards bodies • MoF • Pilot contracting authorities • Business associations / SME agencies (as applicable)	Availability of national/recognized sustainable bidding standards and verification methods; agreement on priority categories; readiness of pilot entities.

Phase & timeline	Core objective	Priority actions (E-GP enhancements)	Key deliverables	Lead entity	Co-lead entities	Key dependencies / notes
		Configure prototype dashboards using existing e-GP reporting/ exports to generate baseline Tier 1–2 indicators (value/volume/share, category coverage).				
Phase 2 (6–12 months)	Update e-GP to capture transaction-native sustainability data across the procurement cycle.	- Embed the minimum Sustainable Bidding dataset into e-GP workflows: planning, tender preparation, evaluation, award, and contract management; - Enhance Planning to support market analysis fields and optional life-cycle cost (LCC) estimation inputs (or linkages to LCC tools where available); - Integrate the Sustainability Criteria Library into e-Bidding and e-Document so criteria selection is recorded and supports auto-tagging of G/SPP tenders; - Extend Item List into a Sustainable Bidding Registry (category mapping; sustainability attributes; eco-label/ VSS references) to standardise reporting; - Enable evaluation method selection (lowest cost/price; LCC; price-quality ratio/QCBS/MEAT) and structured Tender Questionnaire for rated criteria (with validations); - Enhance e-Contract to manage sustainability deliverables/KPIs, reporting frequency, evidence requirements, milestones, and acceptance;	- E-GP release implementing structured G/SPP fields, criteria selection, evaluation method capture, and contract deliverables tracking; - Dashboard V1 (Tier 1–2) operational and used in pilots and early scale-up; - SOPs, user guidance, and training curriculum uploaded/available via e-GP system; - Initial data validation protocol (mandatory fields, exception flags, sampling rules).	e-GP operator / e-GP Directorate	- PPA policy unit - MoF - Pilot and expansion contracting authorities - IT security / digital signature authority (as applicable)	Capacity development; change-management and training; sign-off for mandatory fields; agreed exception rules.

Phase & timeline	Core objective	Priority actions (E-GP enhancements)	Key deliverables	Lead entity	Co-lead entities	Key dependencies / notes
		• Update supplier registration to capture inclusive supplier attributes and sustainability certifications; add banned-supplier / non-compliance flags where mandated; • Deploy Dashboard V1 (Tier 1–2) and issue SOPs and training modules; implement emergency/exception workflow for sustainability waivers where legally permitted.				
Phase 3 (12–18 months)	Scale, institutionalise reporting cycles, and strengthen assurance and data quality.	• Expand to additional contracting authorities and categories (target 5–10 categories), using Core/Advanced packages and updated Item List mapping; • Establish routine internal dashboards and reporting frequency (monthly/quarterly) and publish an annual national G/SPP performance report; • Operationalise validation and corrective action: exception review, stratified sampling of tenders/contracts, and targeted capacity support; • Integrate sustainability performance elements into Supplier Performance Management, including supplier attributes and contract delivery status for sustainability KPIs; • Progressively improve interoperability (e.g., certificate number validation) with relevant eco-label/VSS registries and certification databases.	• Expanded national coverage and stable reporting calendar; • Annual national G/SPP performance report with methodology note and limitations; • Validation protocol and corrective action loop implemented; • Public summary dashboard.	SPP M&E Custodian	• E-GP operator / e-GP Directorate • Oversight bodies • Contracting authorities • Certification/standards bodies	Stable data quality; agreed publication and confidentiality rules; capacity for consolidation and review; interoperability readiness.

Phase & timeline	Core objective	Priority actions (E-GP enhancements)	Key deliverables	Lead entity	Co-lead entities	Key dependencies / notes
Phase 4 (18–36 months)	Introduce outcome/ impact indicators and deepen analytical capability.	• Approve an Impact Methodology Register (methods, baselines, factors, tools, and limitations) for selected categories; • Pilot outcome indicators for a small subset (e.g., energy-using products first), including CO₂e estimation, energy/water savings, and circularity proxies; • Introduce shadow carbon pricing capability for suitable tenders (where policy supports), and strengthen linkage to national LCI/ LCA datasets where available; • Enable optional linkage to green budget tags (if/when established in PFM) and expand socio-economic benefits tracking (SME awards; women-owned awards; disability-inclusive awards; jobs/training where contractually specified); • Integrate outcome annexes into annual reporting and scale progressively as data maturity improves.	• Methodology and calculation templates/tools; • Outcome annex included in annual report; • Enhanced dashboards (Tier 3 outcomes) and documentation of assumptions/limitations.	Technical Working Group (with Custodian coordination)	• MoF / PPA • E-GP operator / e-GP Directorate • MoF • Sector agencies/ testing labs • Statistical offices / research partners (as applicable)	Reliable structured inputs and baselines; verifiable evidence; agreement on disclosure of assumptions; availability of LCI/ LCA factors and tools.

NOTE: Timelines are indicative and should be adjusted based on country's policy sequencing, category readiness, and e-GP management constraints.

7. Conclusion

The integration of sustainability into a country's public procurement system is now a legal mandate and a strategic national priority in many countries. This report has established that an e-GP system is the critical infrastructure to execute this mandate at scale, ensuring consistency, transparency, and measurability across all procuring entities.

The findings clearly establish that while a good e-GP system provides a robust transactional backbone, its current functionality needs to be strengthened to support the systematic integration of sustainability into procurement decisions and monitoring of SPP. The recommended updates to SRS, focusing on structured data capture, integrated criteria selection, and automated reporting, are therefore not optional but necessary to close this functional gap. International evidence consistently demonstrates that such system-based approaches have potential to lower long-term administrative costs, improve data quality, and strengthen accountability.

The proposed implementation roadmap provides a pragmatic and phased pathway to mitigate risk and demonstrate progress. Beginning with foundational policy instruments and piloting in priority categories allows for iterative refinement before a full national rollout. This approach aligns with the SRS's inherent scalability and ensures that system evolution is guided by practical experiences.

Ultimately, success hinges on coordinated institutional action by key stakeholders. The Public Procurement Authority of a country, in collaboration with the relevant ministries, and the e-GP technical team, must assume clear leadership roles. Concurrent investment in capacity building and change management will be critical to foster adoption and ensure the system's effective uses.

Concluding, leveraging e-GP system for SPP implementation and monitoring is the most definitive step for any country to secure the transformative potential of its procurement expenditure. By adopting the framework set forth in this report, country will not only achieve its stated green procurement targets but will also establish a modern, data-driven procurement governance model that advances both economic efficiency and sustainable development.

Annexure I

A Catalogue of Tier 1, 2 and 3 Indicators

SN	Indicator	Definition / formula/ Method	Suggested Frequency	Data source in e-GP	Notes
Tier 1: Institutional Indicators					
1	# procurement staff completing SPP training modules		Training module completion records	Start with manual upload; migrate to e-learning module	Building institutional capacity
2	% of PEs circulating SPP Manual		Quarterly	Quarterly report	SPP adoption by Public Bodies
3	% of PEs submitting annual procurement plan with SPP criteria		Quarterly	Annual procurement plan + SPP_tagging	SPP adoption in practices
Tier 2: Output Indicators					
1	% of SPP tenders	$\text{SPP-flagged tenders} \div \text{total tenders (count)}$	Quarterly	Tender records + spp_flag	Split by goods/works/services and PEs
2	% of SPP procurement value	$\text{Value of SPP-flagged awards} \div \text{total award value}$	Quarterly	Award records + spp_flag + contract value	Split by goods/works/services and PEs
3	% of tenders applying minimum standard sustainability criteria	$\text{No of tenders in priority categories that used standard minimum criteria set} \div \text{total tenders in those categories}$	Quarterly	Category code + criteria_id	Requires issue of official priority list and mapping it with criteria_id in e-GP
4	% of SPP tenders using verified evidence	$\text{SPP tenders with at least one verified evidence item} \div \text{total SPP tenders}$	Quarterly	Bid documents + evidence metadata	Verification can be self-declaration, third-party certificate, test report, ecolabel, VSS
5	% of SPP tenders using LCC (where applicable)	$\text{SPP tenders with LCC evaluation selected} \div \text{SPP tenders in eligible categories}$	Semi-annual	Tender evaluation method + LCC_flag	Eligible categories defined by FPPPA
6	% Share of SPP tenders published with 'SPP logo/label'	$\text{SPP tenders with visible label in notice/search} \div \text{total tenders}$	Quarterly	Portal display logic	Improves market signalling
7	Average sustainability weighting in MEAT tenders	Mean weight (%) assigned to sustainability criteria in MEAT tenders	Annual	Tender questionnaire weights	Use for policy calibration and compliance checks

SN	Indicator	Definition / formula/ Method	Suggested Frequency	Data source in e-GP	Notes
8	% contracts awarded to SMEs	Value of awards to SME suppliers ÷ total value of all contracts	Quarterly	Supplier profile (SME flag) + award data	Leverages inclusive reporting features
9	% of contract awarded to women-owned enterprises	Value of awards to women-owned suppliers ÷ total value of all contracts	Quarterly	Supplier ownership attributes + award data	Requires supplier ownership data fields and verification
10	% of contract awarded to firm with environmental management system (EMS)	Value of awards to firm with EMS ÷ total value of all contracts	Quarterly	Supplier ownership attributes + award data	Requires supplier ownership data fields and verification
11	% of SPP contracts with sustainability KPIs in contract	SPP contracts with at least one contract KPI ÷ total SPP contracts	Quarterly	Contract templates + KPI fields	Transition metric from tender to contract
12	% Contract compliance rate for sustainability KPIs	Contracts meeting KPI thresholds ÷ total contracts with sustainability KPIs during period	Quarterly	Contract monitoring records	Requires structured KPI reporting workflow
13	% of SPP contracts with non-conformance raised/closed	Non-conformance incidents raised and closed in period	Quarterly	Non-conformance log	For continuous improvement and enforcement
14	Timeliness of SPP reporting	% PEs submitting required SPP data by deadline	Quarterly	System usage logs + reporting submissions	Enforcement lever
15	Average number of bids against tender with SPP criteria v/s without SPP criteria	Average no of bids against tender with criteria ÷ Average no of bids against tender without criteria	Annually	No of bids in each tender	Monitoring the level of competition in SPP procedures compared to non-SPP tenders, and assessing market readiness for SPP practices.
Tier 3: Outcome/Impact Indicators					
1	% increase in price of products and services	(Cost of green product-cost of non-green products) ÷ Cost of green products	Annually	Procurement data	
2	Economic saving	(TCO of traditional products – TCO of green Products) ÷ TCO of traditional products	Annually	Procurement data	Economic benefits of SPP

SN	Indicator	Definition / formula/ Method	Suggested Frequency	Data source in e-GP	Notes
3	Share of SMEs in procurement	# of SMEs participating in procurement ÷ No of total participants in procurement	Annually	Procurement and registration data	Social benefits
4	Increase in Supplier diversity	(# of diverse suppliers after SPP implementation - (# of diverse suppliers before SPP implementation	Annually	Supplier registration data and contract data	Resilient economic development
5	GHG emission reduction	(GHG emission of traditional product – GHG emission of green product) ÷ GHG emission of traditional product	Annually	Procurement and LCA inventory data	Environmental benefits
6	Energy saving	(Electricity consumed by traditional product – Electricity consumed by green product)	Annually	Energy consumption data	Environmental benefits
7	Innovation in SPP	# of SPP contracts including innovative solutions	Annually	Contract data	Innovation in economy
8	Increase in # of suppliers with Environmental Management System (EMS)	(# of supplier with EMS after SPP implementation - # of suppliers before SPP implementation)	Annually	Vendor registration data	Market transformation
9	Adoption of SP by private sector	Increase in # of private sector with SP policy	Annually	Market data	Market transformation
10	Increase in market share of energy label or ecolabel products	# of companies with energy or ecolabel products ÷ Total # of companies	Annually	Market data	Market transformation

NOTE: This list is inspired by the international experiences described in this report and not exhaustive. A country may develop its own indicator for SPP implementation depending on policy priorities, legal obligations, infrastructure and facility to interact with other external databases.



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