Republic of the Philippines

gppb

Government Procurement Policy Board

RESOLUTION NO. 19-2023

APPROVING THE ADOPTION OF THE BROAD PRODUCT CATEGORIES WITH SPECIFIC ITEMS OR PRODUCTS FOR PILOT IMPLEMENTATION IN RELATION TO THE SCALING OF SUSTAINABLE CONSUMPTION AND PRODUCTION PROJECT

WHEREAS, Republic Act (RA) No. 9184, otherwise known as the "Government Procurement Reform Act," took effect on 26 January 2003, while its 2016 revised Implementing Rules and Regulations (IRR) took effect on 28 October 2016;

WHEREAS, Section 63 of RA No. 9184 mandates the Government Procurement Policy Board (GPPB) to ensure the proper implementation by Procuring Entities (PE) of the Act, its 2016 revised IRR, and all other relevant rules and regulations pertaining to public procurement, conduct an annual review of the effectiveness of the Act, and recommend any amendments thereto as may be necessary;

WHEREAS, Executive Order No. 301, series of 2004 mandates all departments, bureaus, offices, and agencies of the Executive Branch of the Government to establish their respective "Green Procurement Program" to (i) promote the culture of making environmentally-informed decisions in government, especially in the purchases and use of different products; (ii) include environmental criteria in public tenders, whenever possible and practicable; (iii) establish the specifications and requirements for products of services to be considered environmentally advantageous; and (iv) develop incentive programs for suppliers of environmentally sound products and services;

WHEREAS, to integrate environmentally sustainable principles and practices into public procurement, the GPPB has been proactively involved in the implementation of the Green Public Procurement (GPP) roadmap since 2013.[1] As part of this initiative, specific green specifications were developed for the prioritized Common-Use Supplies and Equipment (CSEs) and non-CSEs in 2017;

WHEREAS, in 2020, the GPPB, through its Technical Support Office (TSO) created a GPP Committee to study the existing GPP roadmap to assess the status of its implementation, which was undertaken with the technical assistance of the *Deutsche Gesellschaft fuer Internationale Zusammenarbeit (GIZ).* As a result of the study, the GPP team recommended the establishment of the GPPB as the GPP Steering Committee to ramp up the strategies in upscaling the GPP roadmap;

WHEREAS, based on Resolution No. 08-2020, the GPPB, upon recommendation of the GPPB-TSO, laid out its policy direction as the GPP Steering Committee in the upscaled implementation of GPP in the Philippines. In addition, the GPPB Inter-Agency Technical

[1] The GPPB issued Resolution No. 15-2013 dated 10 May 2013 which affirmed the Board's support for the implementation of a Sustainable Public Procurement (SPP) or Green Public Procurement (GPP) in Government. A Special GPP and/or SPP Committee was established comprising representatives from the Departments of Agriculture, Education, Energy, Environment and Natural Resources, Interior and Local Government, Science and Technology, Trade and Industry, Transportation and Communications, the Commission on Climate Change, and GPPB-Technical Support Office (TSO) to meet and discuss matters concerning the adoption of a policy, including rules and regulations, to support the implementation of SPP or GPP. To enforce these green objectives, the Green Public Procurement Board (GPPB) adopted specific green specifications for both CSEs and non-CSEs on 23 September 2016 through Resolution No. 22-2016, which were identified as a result of technical assistance provided by the European Union Switch-Asia Programme (EU-SWITCH) and in consultation with the representatives from the Procurement Service of the Department of Budget and Management, Department of Trade and Industry, Department of Energy, National Economic and Development Authority, and GPPB-TSO, among others.

Working Group (IATWG) has been tapped as the Technical Committee to support the GPP Steering Committee in ensuring sustained policy interventions related to the GPP roadmap;

WHEREAS, in October of the same year, the GPPB-TSO enrolled the Philippines in the United Nations Environment Programme (UNEP) for the Sustainable Development Goals (SDG) Indicator 12.7.1 Assessment to upscale the GPP implementation in the country. Subsequently, the Philippines' 2020 and 2021 Sustainable Public Procurement (SPP) performance was assessed by UNEP wherein its preliminary findings revealed for the country, along with China, Japan, Korea, New Zealand, and Indonesia, a medium-low performance in SPP implementation. The UNEP likewise acknowledged the Philippines' average level of performance in view of the country's compliance with the required approach in GPP. The UNEP also commended the Philippines along with Japan, Korea, and China for the scaled-up efforts in the implementation of SPP, being one of the pioneers of GPP. To level up the country's performance under SDG Indicator 12.7.1, the UNEP recommended further improvement by providing practical support to procurement practitioners and implementing the proper monitoring of SPP initiatives;

WHEREAS, in November 2021, as part of the review of the existing GPP roadmap, the GPPB-TSO, through its GPP Committee, conducted a study on the ten (10) prioritized non-CSEs using the Agency Procurement Compliance and Performance Indicators (APCPI) System. The validation of the submitted APCPI reports showed a gradual increase in the number of PEs adopting the green technical specifications for non-CSEs. In particular, the results reflected that in 2018, 106 out of 407 or twenty-six percent (26%) adopted green specifications, in 2019, there were 212 out of 407 or fifty-two percent (52%), and in 2020, 236 out of 407 or fifty-eight percent (58%). The GPP Committee also noted the absence of a monitoring system for the implementation of the GPP roadmap across the PEs;

WHEREAS, the GPPB, as the GPP Steering Committee, approved the GPPB-TSO's recommendation for the designation of focal persons from each GPPB member agency and other pertinent government agencies through Resolution No. 08-2022 as part of its preliminary strategy to address the concerns and gaps in the above study;

WHEREAS, on 1 December 2022, the GPPB-TSO provided orientation for all the GPP focal persons regarding the Sustainable Consumption and Production (SCP) project in the Philippines. As an inaugural measure for this initiative, the February 2023 Kick-Off and Planning Workshop and launch of the SCP project were subsequently conducted, with the technical assistance of the *GIZ,* which aimed to initially identify items under five (5) broad product categories for pilot implementation, namely building materials, Information and Communication Technology (ICT) equipment, food and catering services, training facilities/hotels/venues, and motor vehicles. Accordingly, the following agencies committed to undertake the said pilot implementation:

1. Department of Energy for energy-efficient air conditioners;
2. Department of Interior and Local Government for venue or facility rentals and catering services;
3. Philippine Space Agency on venue or related facilities;
4. GPPB-TSO for office uniforms with consideration for sustainable textiles;
5. Department of Public Works and Highways for cement;
6. Department of Budget and Management for data centers;
7. Department of Health for Solar-Powered Cold Storage Facility; and
8. Department of Transportation;

WHEREAS, in June 2023, the UNEP released its 2022 Federal/National Government's Report on SDG Indicator 12.7.1 wherein the Philippines, through the GPPB-TSO, was commended for its good performance on SPP. Specifically, the UNEP report assessed the level of SPP implementation in a country by looking into its SPP policy, SPP provisions, mandatory SPP, legal framework, practical support, environmental criteria, SPP criteria, and monitoring mechanisms, among others. For the 2021 performance, the Philippines obtained a higher score in the areas of practical support, environmental criteria, and monitoring mechanisms compared to the year 2020. The country was further commended for its good performance on its SPP provisions (SPP policy and mandatory SPP), environmental considerations, and monitoring mechanisms. The Philippines obtained the highest score worldwide for its monitoring mechanisms. These include the review, monitoring, feedback, and publication of green public procurement performance led by the GPPB-TSO, through its GPP team in the second semester of 2021;

WHEREAS, starting July 2023, the GPPB- TSO has been actively engaging with, and assisting the GPP focal persons in planning sessions to create a strategic framework that provides guidance and direction in formulating green specifications for each broad product category and ensuring the preparedness of these categories for pilot implementation. These initiatives aim to institutionalize green specifications as part of the adoption of SCP practices across all government sectors, leveraging GPP to advance sustainable procurement in both the public and private domains;

WHEREAS, the GPPB subsequently issued Resolution No. 07-2023 dated 24 August 2023 approving the conduct of implementation of the GPP Pilot Project and recognizing the agencies that committed to undertake the pilot implementation. The GPP Pilot Agencies were also directed under the said Resolution to submit their proposed action plans and green specifications for their respective pilot projects;

WHEREAS, on 27 October 2023, the GPPB-TSO conducted a follow-up consultation with the GPP Pilot Agencies to finalize the list of committed specific items for pilot implementation based on the proposed broad product categories. As a result, the pilot agencies revised the list of items for pilot implementation, and the initial five (5) broad product categories were expanded into seven (7) broad categories, covering items or products with similar characteristics or purposes, to wit:

GPP Pilot Agency	Revised Broad Product Category
1. Department of Energy	- Energy Efficient Equipment or Facility (Air Conditioners)
2. Department of Interior and Local Government	- Food and Catering Services, and Lease of Venue
3. Philippine Space Agency	- Lease of Venue
4. GPPB -Technical Support Office	- Sustainable Textile Fabrics (Office uniforms)
5. Department of Public Works and Highways	- Motor Vehicles (Land-based Heavy Equipment)
6. Department of Budget and Management	- Information and Communications Technology (ICT) Equipment (Data Center

7. Department of Health	-	Energy Efficient Equipment or Facility (Cold Storage Facility - solar-powered)
8. Department of Transportation	-	Construction Materials (Asphalt Overlay for Airport Runway)

WHEREAS, in anticipation of the challenges in drafting the green specifications, given that the GPP has specific technical requirements that need to be incorporated therein, the GPPB-TSO conducted a writeshop on 24 November 2023, with technical assistance from the World Bank, to capacitate and guide the GPP Pilot Agencies in the crafting of green specifications for their identified items or products, which included both the green criteria and environmental impact;

WHEREAS, based on international GPP standards, green specifications constitute the criteria for evaluating products and services that cover both health and environmental impacts. These criteria are based on attributes such as reduced toxic and hazardous chemicals, lower air and water pollution, energy and water efficiency, and responsible waste disposal. Conversely, environmental impact refers to the effects that a product, service, or activity has on the environment. This includes implications, such as air and water pollution, climate change, waste disposal, and resource depletion; [2]

WHEREAS, the inclusion of specific items or products within the broad product categories is imperative, as it not only effectively expands the GPP list of non-CSE items but also results in the establishment of standardized green specifications that apply to all items or products classified under the same broad product categories. Thus, this ensures a streamlined process, as the items or products can adopt the green specifications that were previously approved by the GPPB;

WHEREAS, following the writeshop, the GPP Pilot Agencies have submitted to the GPPB-TSO the green criteria and environmental impact considerations for their specified items or products within the revised broad product categories. These parameters will undergo further refinement, as necessary, during the course of the pilot implementation;

WHEREAS, during the 8th GPPB Meeting on 30 November 2023, the GPPB-TSO presented to the GPPB, acting as well as the GPP Steering Committee, for consideration and approval of the adoption of the seven (7) revised broad product categories for non-CSE items or products included in the scaling of the SCP Project, as follows:

1. Efficient Energy-consuming Products and Equipment;
2. Meetings, Incentives, Conferences, and Exhibitions;
3. Food and Catering Services;
4. Sustainable Textile Fabrics;
5. ICT Systems/Services, Equipment, or Facilities (Data Center);
6. Motor Vehicles; and
7. Construction Materials;

[2] United States Environmental Protection Agency: https://www.epa.gov/greenerproducts/frequent-questions-about-sustainable-marketplace-and-green-products#One

WHEREAS the GPPB-TSO explained that the foregoing list of revised broad product categories was recommended to promote flexibility and inclusivity for procurement projects of PEs having similar GPP components within a specific broad product category, thus, ensuring a more holistic and consistent integration of sustainable green specifications across a diverse range of items or products;

WHEREAS, the GPPB-TSO also presented the green criteria and environmental impacts of the identified non-CSE items or products under the broad product categories, attached as **Annex A**, which are recommended for pilot implementation and further enhancement during the mandatory implementation;

WHEREAS, the GPPB-TSO emphasized that the key to the development of these green specifications is the technical considerations and parameters that directly address the significant environmental impacts of each item or product. This involves an approach to be implemented by the GPP Pilot Agency wherein it should be able to determine its procurement of certain items or products that have a limited presence of hazardous components that negatively impact the environment while ensuring it meets its specific needs and project requirements. This strategy aims to mitigate resource consumption during the production phase, reduce energy consumption throughout the product use, minimize harmful emissions, and optimize packaging and end-of-life waste generation;

WHEREAS, the Department of Interior and Local Government representative proposed a broader and combined term for the Food and Catering Services and the Lease of Venue for official purposes. In response, the GPPB-TSO clarified that the proposal to separate these two (2) broad product categories is to prevent any confusion and provide flexibility for the PE to choose either of the two (2) broad product categories for their procurement project. However, the PE has the option to combine these two categories in its procurement project taking into consideration the green specification for each item or product category;

WHEREAS, the proposal of the GPPB-TSO for the pilot implementation of office uniforms under the broad item category of Sustainable Textile Fabrics, the following members raised the following:

a. The Department of Energy and Department of Transportation representatives sought clarification if the green specifications for office uniforms include the sustainable criteria for labor; and

b. The Department of National Defense (DND) representative highlighted the need to exclude military uniforms from the requirement for green specifications due to unique functionalities and components in military garments, such as durability, safety, and mission-specific needs;

WHEREAS, the GPPB-TSO clarified that when it comes to Sustainable Textile Fabrics for the use of office uniforms, the green specifications have considered the manufacturing of the textile fabrics; however, the sustainability criteria on compliance with labor standards are already covered by relevant labor standards and regulations. Further, the green specifications for Sustainable Textile Fabrics will not only cover office uniforms but may also apply to other items or products that share the same materials using textile fabrics, such as tokens and giveaways;

WHEREAS, the GPPB noted the comments of the DND representative on military uniforms and clarified that the proposed green specifications for Sustainable Textile Fabrics will not apply to military uniforms during pilot implementation. However, the inclusion of military uniforms during the mandatory implementation will be determined based on the result of the

pilot phase and subsequent assessment which will identify green specifications for Sustainable Textiles that specifically address the functionalities and components required for military uniforms;

WHEREAS, after the discussions with the members, the GPPB-TSO subsequently presented the following recommendations:

1. Adopt the list of revised broad product categories where specific items or products are covered having their green specifications in relation to the scaling of the SCP Project, as follows:

    a. Efficient Energy-consuming Products and Equipment;
    b. Meeting, Incentives, Conferences and Exhibitions;
    c. Food and Catering Services;
    d. Sustainable Textile Fabrics;
    e. ICT Systems/Services, Equipment, or Facilities;
    f. Motor Vehicles; and
    g. Construction Materials.

2. Approve the conduct of the pilot implementation by the GPP Pilot Agencies for the items or products with green specifications, particularly the green criteria and environmental impact, attached as **Annex A**, which falls within the following list of broad product categories, to wit:

GPP Pilot Agency	Revised Broad Product Category and Item
a. Department of Energy	- Efficient Energy-consuming Products and Equipment (Air Conditioners)
b. Department of Interior and Local Government	- Food and Catering Services and Meetings, Incentives, Conferences, and Exhibitions
c. Philippine Space Agency	- Meetings, Incentives, Conferences and Exhibitions
d. GPPB -Technical Support Office	- Sustainable Textile Fabrics (Office uniforms)
e. Department of Public Works and Highways	- Motor Vehicles (Land-based Heavy Equipment)
f. Department of Budget and Management	- Information and Communications Technology (ICT) Systems/ Services, Equipment, or Facilities (Data Center)
g. Department of Health	- Efficient Energy-consuming Products and Equipment (Cold Storage Facilities/solar-powered)
h. Department of Transportation	- Construction Materials (Asphalt Overlay for Airport Runway)

3. Allow other government agencies, aside from the GPP Pilot Agencies, to determine the adoption of the green specifications of items or products according to their specific needs and requirements, particularly focusing on their green criteria and environmental impact. Additionally, they are encouraged to closely coordinate with the GPP Pilot Agencies for any inquiries pertaining to the green specifications for each item or product, as necessary.

WHEREAS the Board, after due deliberation and comments of its members, resolved to approve the abovementioned recommendations of the GPPB-TSO;

NOW, THEREFORE, for and in consideration of the foregoing, **WE**, the Members of the **GOVERNMENT PROCUREMENT POLICY BOARD**, by virtue of the powers vested on **US** by law and other executive issuances, hereby **RESOLVE** to confirm, adopt, and approve, as **WE** hereby confirm, adopt, and approve the following:

a. **ADOPT** the list of revised broad product categories where specific items or products are covered having their green specifications in relation to the scaling of the SCP Project, as follows:

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1. Efficient Energy-consuming Products and Equipment;
2. Meetings, Incentives, Conferences, and Exhibitions;
3. Food and Catering Services;
4. Sustainable Textile Fabrics;
5. ICT Systems/Services, Equipment, or Facilities;
6. Motor Vehicles; and
7. Construction Materials.

b. **APPROVE** the conduct of pilot implementation by the GPP Pilot Agencies for the items or products with green specifications, particularly the green criteria and environmental impact, attached as **Annex A**, which falls within the following list of revised broad product categories, to wit:

GPP Pilot Agency	Revised Broad Product Category and Item
a. Department of Energy	- Efficient Energy-consuming Products and Equipment (Air Conditioners)
b. Department of Interior and Local Government	- Food and Catering Services and Meetings, Incentives, Conferences, and Exhibitions
c. Philippine Space Agency	- Meetings, Incentives, Conferences, and Exhibitions
d. GPPB -Technical Support Office	- Sustainable Textile Fabrics (Office uniforms)
e. Department of Public Works and Highways	- Motor Vehicles (Land-based Heavy Equipment)
f. Department of Budget and Management	- Information and Communications Technology (ICT) Systems/Services,

		Equipment, or Facilities (Data Center)
g. Department of Health	-	Efficient Energy-consuming Products and Equipment (Cold Storage Facilities/solar-powered)
h. Department of Transportation	-	Construction Materials (Asphalt Overlay for Airport Runway)

c. **ALLOW** other government agencies, aside from the GPP Pilot Agencies, to determine the adoption of the green specifications of items or products according to their specific needs and requirements, particularly focusing on their green criteria and environmental impact. Additionally, they are encouraged to closely coordinate with the GPP Pilot Agencies for any inquiries pertaining to the green specifications for each item or product, as necessary.

This Resolution shall take effect immediately.

APPROVED this 30th day of November 2023 at Taguig City, Philippines.

SGD.	**SGD**.
GPPB, Chairperson **DEPARTMENT OF BUDGET AND MANAGEMENT**	*Alternate to the Chairperson* **DEPARTMENT OF BUDGET AND MANAGEMENT**
NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY	**DEPARTMENT OF EDUCATION**
SGD.	
DEPARTMENT OF ENERGY	**DEPARTMENT OF FINANCE**
SGD.	**SGD**.
DEPARTMENT OF HEALTH	**DEPARTMENT OF THE INTERIOR AND LOCAL GOVERNMENT**
	SGD.
DEPARTMENT OF NATIONAL DEFENSE	**DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS**
SGD.	
DEPARTMENT OF SCIENCE AND TECHNOLOGY	**DEPARTMENT OF TRADE AND INDUSTRY**
SGD.	
DEPARTMENT OF TRANSPORTATION	**DEPARTMENT OF INFORMATION AND COMMUNICATIONS TECHNOLOGY**
SGD.	**SGD**.
PHILIPPINE SPACE AGENCY	**PRIVATE SECTOR REPRESENTATIVE**

GREEN SPECIFICATIONS OF THE SPECIFIC ITEMS OR PRODUCTS UNDER THE BROAD PRODUCT CATEGORIES

BROAD PRODUCT CATEGORY AND ITEM	GREEN CRITERIA	ENVIRONMENTAL IMPACT
1. Efficient Energy-consuming Products and Equipment: Air Conditioners and Cold Storage	- Eco design and applicable standards - Energy standards or labels to be used - Product has energy-efficient settings that are easy to use - Product longevity and warranty (any additional warranty) - Installation instructions and user information (poor installation and/or use can have environmental impacts) - End of life service - Reporting on end-of-life destruction	- End-of-life / product disposal - Energy consumption and Greenhouse Gas (GHG) emissions during production, operation, and end-life - Free from ozone-depleting substances or products that do not contain any hazardous substances
2. Sustainable Textile Fabrics: Office Uniforms	- Capacity of suppliers-traceability of fibers and management of chemicals - Type of fiber to be used such as cotton, Wool, and Man-made fibers. - Bleaching Components - Man-made fibers, if used, such as polyester, or nylon, recycled content requirement is necessary. - Polyester recycling requirement - Restriction on the use of certain chemicals in the making of textiles to prevent or limit environmental damage. - Durability requirement	- Fiber sourcing of 5% natural fiber - Toxic chemical use is lessen - Process energy and toxicity during production - Impact aquatic environment during production - GHG emissions - Lesser Energy used for washing, drying, and ironing. - Water consumption in washing is lessen - Sulphur emission to Air

	- Selection of Fabrics and minimizing the need for washing and ironing. - Inclusion of Care labelling - Design for re-use, recycling, or takeback system	
3. Meetings, Incentives, Conferences, and Exhibitions	- Chemical usage of products such as hand washing, dishwashing, or cleaning - Energy and water consumption - Movement of Kitchen paper or delivery of the food	- Land use and land use change (destruction of forests, natural habitats, crops) - Lesser Energy and water consumption
4. Food and Catering Services	- Food procurement – source of food - Provision of tap water - Food and beverage waste prevention - Food packaging - Usage of disposable items	- Impact of farming and food processing - Less waste from food packaging - Food waste and other waste categories - Depletion of fish stocks, marine pollution, and reduction of biodiversity
5. Motor Vehicles: Land-based Heavy Equipment	- Technical capacity - Environmental performance with the consideration of reduced air emissions/pollution. - Energy consumption/ efficiency installation and User instructions	- Climate change impacts linked to emissions - Air pollution from combustion engines (Particular Matter, Nitrogen Oxides, Carbon Monoxide, Non-methane Hydrocarbons) - Less Noise pollution - Less Fuel and Energy consumption - Impacts linked to battery production and disposal - Lessen Air, water, and soil pollution from lubricants and tires.

6. Motor Vehicles: Hybrid Vehicles	- Reduced CO2 Emissions - Fuel Efficiency- such as the use of two sources of power which are the gasoline engine and electric motor fuel efficiency. - Environmental performance with the consideration of reduced air emissions/pollution. - Battery performance and minimum warranty - Energy consumption efficiency - Speed limiter requirement - Eco labels for some parts such as labels for Tires - Certificates of Conformity issued by a competent authority. - Consideration on the Use of lower-impact Tires and lubricants	- Hybrid Electric Vehicles (HEV) consume less fuel which reduces the amount of Carbon Dioxide and other harmful pollutants generated into the atmosphere. - HEVs use two sources of power which are the gasoline engine and electric motor. - Electric motors make minimal noise while running. - Climate change impacts linked to tailpipe emissions and fossil fuel extraction - Air, water, and soil pollution from lubricants and tires - Fuel consumption and air polluti9on from tire wear and tear
7. Information and Communication Technology (ICT) Systems/Services, Equipment or Facilities: Data Center	- Environmental Quality System certification issued by a competent authority. - Energy Efficient building design which includes insulation and effective HVAC systems to minimize energy consumption for cooling and heating. - Maximized use of natural lighting to reduce the need for artificial lighting, this not only saves energy but also creates a more pleasant working environment. - Water-efficient systems that include plumbing and landscaping that minimize water usage,	- Electricity consumption of ICT in data centers (primarily servers) - Electricity consumption of mechanical and electrical systems controlling the internal environmental conditions of data centers - Direct and indirect greenhouse gas (GHG) emissions linked to data center operations, including electricity consumption, refrigerants, manufacturing of ICT

	contributing to water conservation goals. - Low-emission design that produces methods and materials with minimal pollutants. **For Heating, Ventilation and Air-conditioning (HVAC):** - The HVAC system with a high energy efficiency rating, ensuring the heating and cooling system is smooth and has low-energy performance which is aligned with ISO 14001 principles. - Smart HVAC controls that can adapt to occupancy patterns, adjust temperature settings, optimize energy usage, and reduce waste. - HVAC systems should be integrated with renewable energy, using solar panels or other green energy solutions to keep the building's climate eco-friendly. - HVAC systems should use environmentally friendly refrigerants, ensuring that the HVAC system provides a healthy and pollutant-free indoor environment. - The HVAC system should be capable of reusing waste heat, improving overall energy efficiency, and reducing environmental impacts. **For Uninterruptible Power (UPS):** - UPS should be energy-efficient, optimize power	systems, and unexploited potential for waste heat re-use - The use of high global warming potential gases in cooling systems - Control of hazardous substances - End-of-life/product disposal

	usage, and have high-efficiency ratings, ensuring that power backup is a lean, green machine. - Smart battery management feature that optimizes charging and discharging cycles, extending the life of batteries, and reducing environmental impact. - UPS systems use batteries with lower environmental impact, such as recyclable or biodegradable materials. **For Backup Generators (Genset):** - The genset should be capable of using eco-friendly fuel by opting for cleaner options like biodiesel or natural gas to ensure the backup power has a green fuel wardrobe. - Should have noise pollution minimization by implementing soundproofing measures. - The genset should be capable of emission reduction by incorporating technologies that minimize harmful emissions, making sure the backup power does not leave a big carbon footprint. **For ICT Equipment:** - Energy-efficient hardware. This includes processors, memory, and storage devices designed to deliver high performance with	

	minimal energy consumption. - Server virtualization, allows multiple virtual servers to run on a single physical server, optimizing resource usage, and reducing energy consumption. - The ICT equipment should be made of recyclable or biodegradable materials, reducing the environmental impact of manufacturing and disposal. - ICT equipment should have a remote management capability, this allows for monitoring and management of the equipment without physical presence, reducing the need for travel and lowering the carbon footprint	
8. Construction Materials: Asphalt Overlay	- Source of Materials - Energy Consumption during production - Environmental performance- noise, air, and emissions - Re-use and recycling of construction materials - Optimizing the use of low-carbon alternatives - Embodied carbon limit i.e. maximum carbon footprint per square meter - Sorting and management of materials on site to avoid waste	- Lesser energy consumption and GHG Emission during production And during operation - Less water consumption - Effects on air, water, and soil pollution from production