HCBM ENVIRONMENTAL SUSTAINABILITY PRINCIPLES (ESP), GOALS (GESP) & INDICATORS (ESPI)			
ENVIRONMENTAL SU and GOALS (GESP)	ENVIRONMENTAL SUSTAINABILITY PRINCIPLES (ESP) and GOALS (GESP)		ESPI Metric/Measurement Protocol
ESP-1. PRECAUTIONA	RY APPROACH AND ENVIRONMEN	NTAL COMPLIANCE PRINCIPLE	
GESP-1.1.	Goal GESP-1.1. Businesses should support a precautionary approach to environmental challenges.	ESPI-1.1. GRI Disclosure 102-11 /G3 4.11. Precautionary Principle or approach.	ESPI-1.1. Whether and how the organization applies the Precautionary Principle or approach. Explanation of whether and how the precautionary approach or principle is addressed by the organization.
GESP-1.2.	Goal GESP-1.2. Compliance with national, sub-national, regional, and local environmental laws and regulations.	ESPI-1.2. GRI Disclosure 307-1 Non-compliance with environmental laws and regulations	 ESPI-1.2. a. Report significant fines and non-monetary sanctions for non-compliance with environmental laws and/or regulations in terms of: i. total monetary value of significant fines; ii. total number of non-monetary sanctions; iii. cases brought through dispute resolution mechanisms. b. I f the organization has not identified any non-compliance with environmental laws and/or regulations, a brief statement of this fact is sufficient. (GRI Secretariat 2016)
GESP-1.3.	Goal GESP-1.3. Compliance with the international environmental conventions and agreements and promotion of greater environmental responsibility and climate change action.	ESPI-1.3. GRI Disclosure 307-1 Non-compliance with environmental laws and regulations.	ESPI-1.3. a. S significant fines and non-monetary sanctions for non-compliance with environmental laws and/or regulations in terms of: i. total monetary value of significant fines; ii. total number of non-monetary sanctions; iii. cases brought through dispute resolution mechanisms.

Table 20: HCBM Environmental Sustainability Principles, Goals and Proposed Indicators

			b. If the organization has not identified any non- compliance with environmental laws and/or regulations, a brief statement of this fact is sufficient. (GRI Secretariat 2016)
GESP-1.4.	Goal GESP-1.4. Enterprises should prevent environmental damage and ensure damage repair. Enterprisers are subject to the polluter pays principle and to the principle of environmental liability.	ESPI-1.4. Compliance with the environmental liability and the polluter pays principle.	ESPI-1.4. Payments for negative environmental impacts applied through the economic instruments required/prescribed by the national or international legislation, such as taxes and charges, emissions trading, as in cap and trade, deposit refund schemes, liability and insurance, etc.
ESP-2. MINIMIZE CON	ISUMPTION OF MATERIALS AND V	VATER RESOURCES PRINCIPLE	
GESP-2.1.	Goal GESP-2.1. Enterprise should optimize the use of resources. Materials used by an enterprise should be minimized.	ESPI-2.1. GRI Disclosure 301-1 Materials used by weight or volume.	ESPI-2.1 a. Total weight or volume of materials that are used to produce and package the organization's primary products and services during the reporting period, by: i. non-renewable materials used; ii. renewable materials used. (GRI Secretariat 2016)
GESP-2.2.	Goal GESP-2.2. Recycle input materials used/Reclaimed products and their packaging materials must be maximized.	ESPI-2.2.1. GRI Disclosure 301-2 Recycled input materials used.	ESPI-2.2.1. a. P percentage of recycled input materials used to manufacture the organization's primary products and services. (GRI Secretariat 2016)
		ESPI-2.2.2. GRI Disclosure 301-3 Reclaimed products and their packaging materials.	ESPI-2.2.2. a. Percentage of reclaimed products and their packaging materials for each product category. b. How the data for this disclosure have been collected. (GRI Secretariat 2016)

GESP-2.3.	Goal GESP-2.3. Enterprises must minimize their consumption of water and water withdrawal.	ESPI-2.3.GRI Disclosure 303-1 Water withdrawal by source.	ESPI-2.3. a. Total volume of water withdrawn, with a breakdown by the following sources: i. Surface water, including water from wetlands, rivers, lakes, and oceans; ii. Ground water; iii. Rainwater collected directly and stored by the organization; iv. Waste water from another organization; v. Municipal water supplies or other public or private water utilities. b. Standards, methodologies, and assumptions used. (GRI Secretariat 2016)
GESP-2.4.	Goal GESP-2.4. Enterprise must avoid environmental damage to water sources significantly affected by withdrawal of water.	ESPI-2.4. GRI Disclosure 303-2 Water sources significantly affected by withdrawal of water.	ESPI-2.4. a. Total number of water sources significantly affected by withdrawal by type: i. Size of the water source; ii. Whether the source is designated as a nationally or internationally protected area; iii. Biodiversity value (such as species diversity and endemism, and total number of protected species); iv. Value or importance of the water source to local communities and indigenous peoples. b. Standards, methodologies, and assumptions used. (GRI Secretariat 2016)

GESP-2.5.	Goal GESP-2.5. Water recycled and reused must be increased.	ESPI-2.5. GRI Disclosure 303-3 Water recycled and reused.	ESPI-2.5. a. Total volume of water recycled and reused by the organization. b. Total volume of water recycled and reused as a percentage of the total water withdrawal as specified in Disclosure 303-1. c. Standards, methodologies, and assumptions used. (GRI Secretariat 2016)
ESP-3 ENERGY CONSU	JMPTION OPTIMIZATION PRINCIP	LE	
GESP-3.1.	Goal GESP-3.1. Enterprise should increase the proportion of renewable energy used for energy consumption within the organization.	ESPI-3.1. GRI Disclosure 302-1 Energy consumption within the organization.	ESPI-3.1. a. Total fuel consumption within the organization from non-renewable sources, in joules or multiples, and including fuel types used. b. Total fuel consumption within the organization from renewable sources, in joules or multiples, and including fuel types used. c. In joules, watt- hours or multiples, the total: i. electricity consumption ii. heating consumption iii. cooling consumption iv. steam consumption d. In joules, watt-hours or multiples, the total: i. electricity sold ii. heating sold iii. cooling sold iv. steam sold e. Total energy consumption within the organization, in joules or multiples. f. Standards, methodologies, assumptions, and/or calculation tools used. g. Source of the conversion factors used. This approach is followed for all calculations. (GRI Secretariat 2016)

GESP-3.2.	Goal GESP-3.2. Enterprise should increase the proportion of renewable energy used for energy consumption outside the organization.	ESPI-3.2.GRI Disclosure 302-2 Energy consumption outside of the organization.	ESPI-3.2. The reporting organization shall report the following information: a. Energy consumption outside of the organization, in joules or multiples.b. Standards, methodologies, assumptions, and/or calculation tools used. c. Source of the conversion factors used. (GRI Secretariat 2016)
GESP-3.3.	Goal GESP-3.3. An enterprise must improve energy efficiency and maximize reduction of energy consumption through reduction initiatives in its operations.	ESPI-3.3.1. GRI Disclosure 302-3 Energy intensity.	ESPI-3.3.1. a. Energy intensity ratio for the organization. b. Organization-specific metric (the denominator) chosen to calculate the ratio. c. Types of energy included in the intensity ratio; whether fuel, electricity, heating, cooling, steam, or all. d. Whether the ratio uses energy consumption within the organization, outside of it, or both. (GRI Secretariat 2016)
		ESPI-3.3.2. GRI Disclosure 302-4 Reduction of energy consumption.	ESPI-3.3.2. a. A mount of reductions in energy consumption achieved as a direct result of conservation and efficiency initiatives, in joules or multiples. b. Types of energy included in the reductions; whether fuel, electricity, heating, cooling, steam, or all. (GRI Secretariat 2016)

GESP-3.4.	Goal GESP-3.4. Reduction in energy requirements of products and services should be made whenever possible.	ESPI-3.4.1. GRI Disclosure 302-5 Reductions in energy requirements of products and services.	ESPI-3.4.1. a. Reductions in energy requirements of sold products and services achieved during the reporting period, in joules or multiples. b. Basis for calculating reductions in energy consumption, s. c. Standards, methodologies, assumptions, and/or calculation tools used. (GRI Secretariat 2016)
ESP-4 MINIMIZATION	OF WASTE GENERATION AND DIS	SPOSAL PRINCIPLE	
GESP-4.1.	Goal GESP-4.1. Enterprise should avoid generating waste and if this is not possible it should ensure efficient management of its waste and effluents.	ESPI-4.1.1. GRI 306 Disclosure on Management Approach of Waste Generation and Disposal.	 ESPI-4.1.1. When reporting its management approach for effluents and waste, the reporting organization can also disclose expenditures on: treatment and disposal of waste; • c lean-up costs, including costs for remediation of spills as specified in Disclosure 306-3. (GRI Secretariat 2016)
G ESP-4.1 .		ESPI-4.1.2. GRI Disclosure 306-1 Water discharge by quality and destination.	ESPI-4.1.2. a. Total volume of planned and unplanned water discharges by: i. destination; ii. quality of the water, including treatment method; iii. whether the water was reused by another organization. b. Standards, methodologies, and assumptions used (GRI Secretariat 2016)

GESP-4.2.	Goal GESP-4.2. Enterprise	ESPI-4.2. GRI Disclosure 306-2	ESPI-4.2. The reporting organization shall report
	should reduce its discharged	Waste by type and disposal	the following information: a. Total weight of
	waste. It should choose the	method.	hazardous waste, with a breakdown by the
	eco-friendliest effluent and		following disposal methods where applicable: i.
	waste discharge method by		Reuse ii. Recycling iii. Composting iv. Recovery,
	quality and destination and		including energy recovery v. Incineration (mass
	the most efficient disposal		burn) vi. Deep well injection vii. Landfill viii. On-
	method by type waste.		site storage ix. Other (to be specified by the
	method by type waste.		organization) b. Total weight of non-hazardous
			waste, with a breakdown by the following disposal
			methods where applicable: i. Reuse ii. Recycling
			iii. Composting iv. Recovery, including energy
			recovery v. Incineration (mass burn) vi. Deep well
			injection vii. Landfill viii. On-site storage ix. Other
			(to be specified by the organization) c. How the
			waste disposal method has been determined: i.
			•
			Disposed of directly by the organization, or
			otherwise directly confirmed ii. Information
			provided by the waste disposal contractor iii.
			Organizational defaults of the waste disposal
			contractor. (GRI Secretariat 2016)

GESP-4.3.	Goal GESP-4.3. Significant spills must be dealt by the enterprise with the aim to minimize 1) the number of spills, and 2) their impact based on spill's location, volume, and material.	ESPI-4.3. GRI Disclosure 306-3 Significant spills.	ESPI 4.3. a. Total number and total volume of recorded significant spills. b. The following additional information for each spill that was reported in the organization's financial statements: i. Location of spill; ii. Volume of spill; iii. Material of spill, categorized by: oil spills (soil or water surfaces), fuel spills (soil or water surfaces), spills of wastes (soil or water surfaces), spills of chemicals (mostly soil or water surfaces), and other (to be specified by the organization). c. Impacts of significant spills. (GRI Secretariat 2016)
GESP-4.4.	Goal GESP-4.4. Transportation of hazardous waste should be minimized.	ESPI-4.4. GRI Disclosure 306-4 Transport of hazardous waste.	ESPI-4.4. a. Total weight for each of the following: i. Hazardous waste transported ii. Hazardous waste imported iii. Hazardous waste exported iv. Hazardous waste treated b. Percentage of hazardous waste shipped internationally. c. Standards, methodologies, and assumptions used (GRI Secretariat 2016)

GESP-4.5.	Goal GESP-4.5. Water bodies affected by water discharges and/or runoff should be minimized and reduced.	ESPI-4.5. GRI Disclosure 306-5 Water bodies affected by water discharges and/or runoff.	ESPI-4.5. a. Water bodies and related habitats that are significantly affected by water discharges and/or runoff, including information on: i. the size of the water body and related habitat; ii. whether the water body and related habitat is designated as a nationally or internationally protected area; iii. the biodiversity value, such as total number of protected species. (GRI Secretariat 2016)
ESP-5 MINIMIZATION	I OF EMISSIONS INTO AIR PRINCIP	LE	
GESP-5.1.	Goal GESP-5.1. Enterprises should reduce and minimize both direct and indirect greenhouse gas (GHG) emissions and their intensity, including ozone-depleting substances (ODS), and nitrogen oxides (NOX) and sulfur oxides (SOX), and other significant air emissions.	ESPI-5.1.1. GRI Disclosure 305-1 Direct (Scope 1) GHG emissions; OECD; ISO 14000.	ESPI-5.1.1. a. Gross direct (Scope 1) GHG emissions in metric tons of CO2 equivalent. b. Gases included in the calculation; whether CO2, CH4, N2O, HFCs, PFCs, SF6, NF3, or all. c. Biogenic CO2 emissions in metric tons of CO2 equivalent. d. Base year for the calculation, if applicable, including: i. the rationale for choosing it; ii. emissions in the base year; iii. the context for any significant changes in emissions that triggered recalculations of base year emissions. e. Source of the emission factors and the global warming potential (GWP) rates used, or a reference to the GWP source. f. Consolidation approach for emissions; whether equity share, financial control, or operational control. g. Standards, methodologies, assumptions, and/or calculation tools used. This approach applies to following GHG measurements as well. (GRI Secretariat 2016)

	ESPI-5.1.2. GRI Disclosure 305-2 Energy indirect (Scope 2) GHG emissions.	ESPI-5.1.2. a. Gross location-based energy indirect (Scope 2) GHG emissions in metric tons of CO2 equivalent. b. If applicable, gross market-based energy indirect (Scope 2) GHG emissions in metric tons of CO2 equivalent. c. If available, the gases included in the calculation; whether CO2, CH4, N2O, HFCs, PFCs, SF6, NF3, or all. (GRI Secretariat 2016)
GESP-5.1.	ESPI-5.1.3. GRI Disclosure 305-3 Other indirect (Scope 3) GHG emissions.	ESPI-5.1.3. a. Gross other indirect (Scope 3) GHG emissions in metric tons of CO2 equivalent. b. I f available, the gases included in the calculation; whether CO2, CH4, N2O, HFCs, PFCs, SF6, NF3, or all. c. Biogenic CO2 emissions in metric tons of CO2 equivalent. d. Other indirect (Scope 3) GHG emissions categories and activities included in the calculation. (GRI Secretariat 2016)
	ESPI-5.1.4. GRI Disclosure 305-4 GHG emissions intensity.	ESPI-5.1.4. a. GHG emissions intensity ratio for the organization. b. Organization-specific metric (the denominator) chosen to calculate the ratio. c. Types of GHG emissions included in the intensity ratio; whether direct (Scope 1), energy indirect (Scope 2), and/or other indirect (Scope 3). d. Gases included in the calculation; whether CO2, CH4, N2O, HFCs, PFCs, SF6, NF3, or all. (GRI Secretariat 2016)

GESP-5.1.		ESPI-5.1.5 GRI Disclosure 305-5 Reduction of GHG emissions.	ESPI-5.1.5. a. G HG emissions reduced as a direct result of reduction initiatives, in metric tons of CO2 equivalent. b. Gases included in the calculation; whether CO2, CH4, N2O, HFCs, PFCs, SF6, NF3, or all. c. Base year or baseline, including the rationale for choosing it. d. Scopes in which reductions took place; whether direct (Scope 1), energy indirect (Scope 2), and/or other indirect (Scope 3). e. Standards, methodologies, assumptions, and/or calculation tools used. (GRI Secretariat 2016)
GESP-5.2.	Goal GESP-5.2. If GHG emission is unavoidable, an enterprise should strive to develop a CO2 offset to mitigate unavoidable emissions.	ESPI-5.2. GHG Emission mitigation through offsetting, green tariffs and other instruments.	ESPI-5.2. a. Carbon offsets/credits. b. Green tariffs/RECs.

ESP-6 IMPACT ON BIODIVERSITY PRINCIPLE			
GESP-6.1.	Goal GESP-6.1. Enterprise should limit the number of operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas.	ESPI-6.1. GRI Disclosure 304-1 Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas.	ESPI-6.1. a. F or each operational site owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas, the following information: i. Geographic location; ii. Subsurface and underground land that may be owned, leased, or managed by the organization; iii. Position in relation to the protected area (in the area, adjacent to, or containing portions of the protected area) or the high biodiversity value area outside protected areas; iv. Type of operation (office, manufacturing or production, or extractive); v. Size of operational site in km2 (or another unit, if appropriate); vi. Biodiversity value characterized by the attribute of the protected area or area of high biodiversity value outside the protected area (terrestrial, freshwater, or maritime ecosystem); vii. Biodiversity value characterized by listing of protected status (such as IUCN Protected Area Management Categories, Ramsar Convention, national legislation). (GRI Secretariat 2016)

			FCDLC 2 - Notice of significant direct such
GESP-6.2.	Goal GESP-6.2. Enterprise must avoid making significant negative impacts on biodiversity through its activities, products and/or services.	ESPI-6.2.GRI Disclosure 304-2 Significant impacts of activities, products, and services on biodiversity.	ESPI-6.2. a. Nature of significant direct and indirect impacts on biodiversity with reference to one or more of the following: i. Construction or use of manufacturing plants, mines, and transport infrastructure; ii. Pollution (introduction of substances that do not naturally occur in the habitat from point and non-point sources); iii. Introduction of invasive species, pests, and pathogens; iv. Reduction of species; v. Habitat conversion; vi. Changes in ecological processes outside the natural range of variation (such as salinity or changes in groundwater level). b. Significant direct and indirect positive and negative impacts with reference to the following: i. Species affected; ii. Extent of areas impacted; iii. Duration of impacts; iv. Reversibility or irreversibility of the impacts. (GRI Secretariat 2016)
GESP-6.3.	Goal GESP-6.3. Enterprise play major role regarding the protection of biodiversity by increasing the areas of habitats protected or restored by the enterprise alone or/and in partnership with a third party.	ESPI-6.3. GRI Disclosure 304-3 Habitats protected or restored.	ESPI-6.3. a. Size and location of all habitat areas protected or restored, and whether the success of the restoration measure was or is approved by independent external professionals. b. Whether partnerships exist with third parties to protect or restore habitat areas distinct from where the organization has overseen and implemented restoration or protection measures. c. Status of each area based on its condition at the close of the reporting period. d. Standards, methodologies used. (GRI Secretariat 2016)

GESP-6.4.	Goal GESP-6.4. Enterprises must identify endangered plant and animal UCN Red List Species and national conservation list. Species with habitats in areas affected by operations and where its activities pose a threat to the species, and it must initiate appropriate steps to avoid harm and to prevent the extinction of Species.	ESPI-6.4. GRI Disclosure 304-4 IUCN Red List species and national conservation list species with habitats in areas affected by operations.	ESPI-6.4.a. Total number of IUCN Red List species and national conservation list species with habitats in areas affected by the operations of the organization, by level of extinction risk: i. Critically endangered ii. Endangered iii. Vulnerable iv. Near threatened v. Least concern. (GRI Secretariat 2016)	
ESP-7 ENVIRONMENTALLY RESPONSIBLE BUSINESS PRINCIPLE				
GESP-7.1.	Goal GESP-7.1. Enterprises should provide environmental information and ensure transparency.	ESPI-7.1. GRI Disclosure 102-20 Executive-level responsibility for economic, environmental, and social topics.	ESPI-7.1 a. Whether the organization has appointed an executive-level position or positions with responsibility for economic, environmental, and social topics. b. Whether post holders report directly to the highest governance body. (GRI Secretariat 2016)	
GESP-7.2.	Goal GESP-7.2. Extension of UN Global Compact's Principles 7-9 through the value chain for minimization of the negative environmental impacts in the supply chain.	ESPI-7.2.1. Evidence of life- cycle approach in operations, services and products (ISO 14040 and 14044).	ESPI-7.2.1. life cycle assessment (LCA) is a standardised methodology - the standards for the four main phases of an LCA (goal and scope, inventory analysis, impact assessment and interpretation) are provided by the International Organisation for Standardisation (ISO) in ISO 14040 and 14044.	

GESP-7.2.		ESPI-7.2.2. Product design and environmental performance. ESI-7.2.3. Sustainable consumption and responsible use of materials and products.	 ESPI-7.2.2. % of products created with application of <u>eco-design</u>, <u>biomimicry</u>, <u>sustainable product</u> <u>design</u>, eco-label, <u>integrated product policy</u> or/and <u>LCA</u> and % products subjects of <u>environmental performance assessment</u> (Product Environmental Footprint (PEF), etc.). ESI-7.2.3. Policies and actions taken by the enterprise to promote and ensure sustainable consumption and responsible use of materials and products.
GESP-7.3.	Goal GESP-7.3. Extended Producer Responsibility.	ESPI-7.3.1. GRI Disclosure 308-1 New suppliers that were screened using environmental criteria. ESPI-7.3.2. GRI Disclosure 308-2 Negative environmental impacts in the supply chain and actions taken.	ESPI-7.3.1. a. Percentage of new suppliers that were screened using environmental criteria. (GRI Secretariat 2016) ESPI-7.3.2. a. Number of suppliers assessed for environmental impacts. b. Number of suppliers identified as having significant actual and potential negative environmental impacts. c. Significant actual and potential negative environmental impacts identified in the supply chain. d. Percentage of suppliers identified as having significant actual and potential negative environmental impacts with which improvements were agreed upon as a result of assessment. e. Percentage of suppliers identified as having significant actual and potential negative environmental impacts with which relationships were terminated as a result of assessment, and

GESP-7.3.	Goal GESP-7.3. Extended Producer Responsibility.	ESPI-7.3.3.GRI Disclosure 416-1 Assessment of the health and safety impacts of product and service categories.	ESPI-7.3.3. a. Percentage of significant product and service categories for which health and safety impacts are assessed for improvement. (GRI Secretariat 2016)
ESP-8 ADOPT CIRCUL	AR ECONOMY PRINCIPLE		
GESP-8.1.	Goal GESP-8.1. Enterprises should adopt a circular economy (CE) perspective and approach.	ESPI-8.1.1. Evidence of CE approach in operations, product development and services.	ESPI-8.1.1. Apply <u>Circular Economy Toolkit</u> developed at the University of Cambridge (Evans and Bocken 2013) which provides a web interface and a range of questions covering the product lifecycle.
		ESPI-8.1.2. Material Circularity Indicator (MCI).	ESPI-8.1.2. Apply MCI Methodology based on Ellen MacArthur Foundation <u>Circular Design Guide</u> (Ellen MacArthur Foundation.2015).
		ESPI-8.1.3. CE Complimentary Risk (toxicity; scarcity; etc.) and Impact (energy; water).	ESPI-8.1.3. Apply Materiality Circularity Indicator (MCI) Methodology based on <u>Circular Design</u> <u>Guide</u> (Ellen MacArthur Foundation.2015).
GESP-8.2.	Goal GESP-8.2. Enterprises should adopt self-regulation and control.	ESPI-8.2. Env Management systems and policies in place GRI Secretariat.2016).	ESPI-8.2. See GRI Standard GRI 103.

GESP-8.3.	Goal GESP-8.3. Enterprises should measure in order to improve.	ESPI-8.3. Reporting process set up, materiality applied and reporting disclosures defined, measurement systems set up, data collection, analysis, reporting, decision-making and information loop for improvement set up. (GRI Secretariat 2016)	ESPI-8.3. See GRI Standard General Disclosures 102.
GESP-8.4.	Goal GESP-8.4. Enterprises should take into account the environmental needs and expectations of interested parties (stakeholders).	ESPI-8.4. Stakeholder consultations and engagement re environmental performance, impacts, strategy and commitments/targets. (GRI Secretariat.2016)	ES-8.4. See GRI Standard General Disclosures 102 stakeholder mapping, consultations, engagement.
GESP-8.5.	Goal GESP-8.5. Enterprises should get involved in addressing the local and global environmental challenges.	ESPI-8.5. Company strategy and commitments re sustainability/environment. (GRI Secretariat.2016)	ESPI-8.5. See GRI Standard General Disclosures GRI-102.

GESP-8.6.	Goal GESP-8.6. Businesses should encourage the development and diffusion of environmentally friendly technologies.	ESPI-8.6. Eco-innovation (UM- MERIT. 2007).	ESPI -8.6. Introduced pollution control, recycling technologies; technologies for new or improved products or services that are more environmentally friendly than those already on the market; new or improved processes with environmental benefits; organisational innovations such as environmental reports, audits, or management programmes; new or improved delivery, transport, or distribution systems for products or convisos
			or distribution systems for products or services, with environmental benefits, etc.