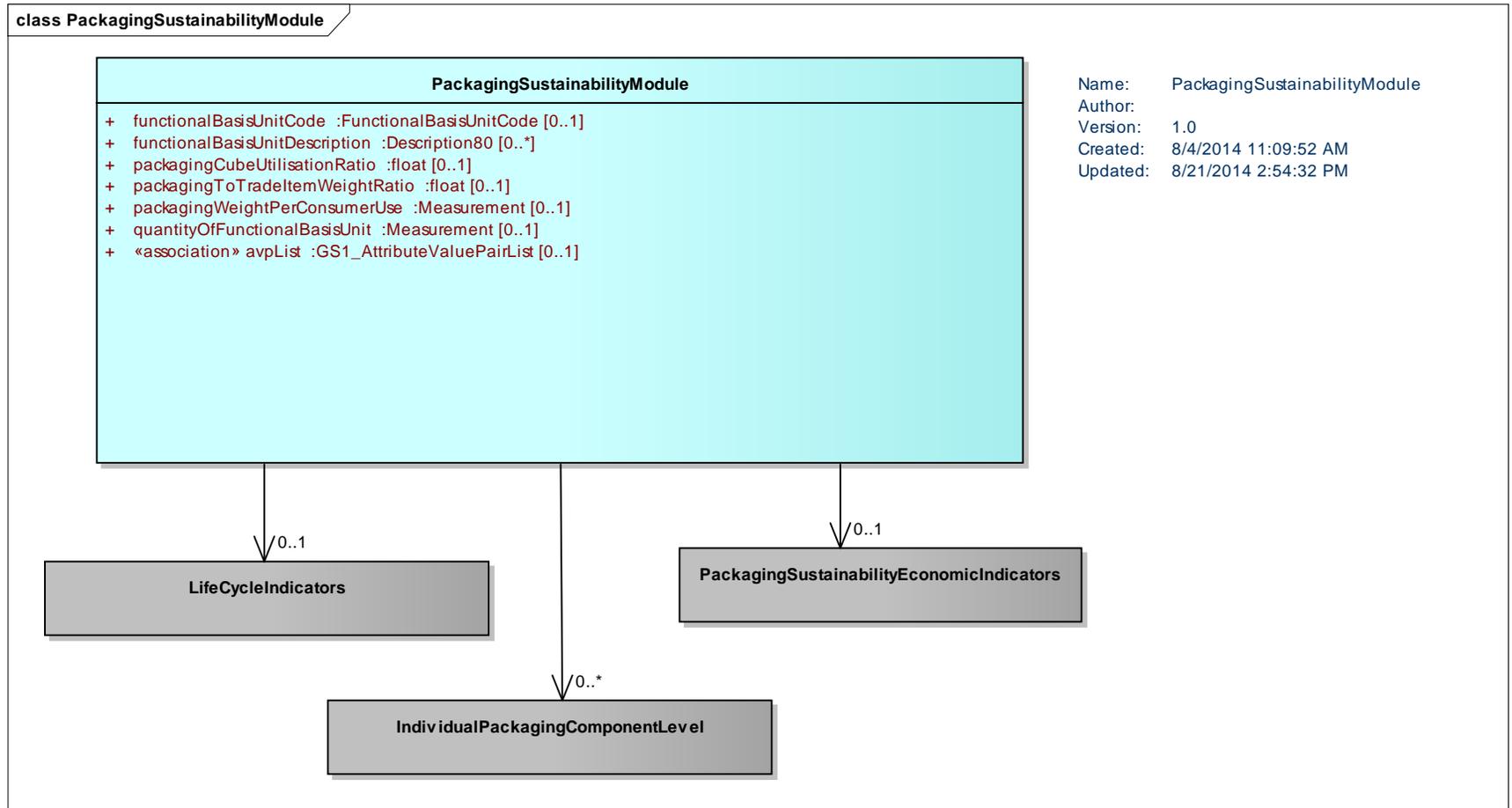
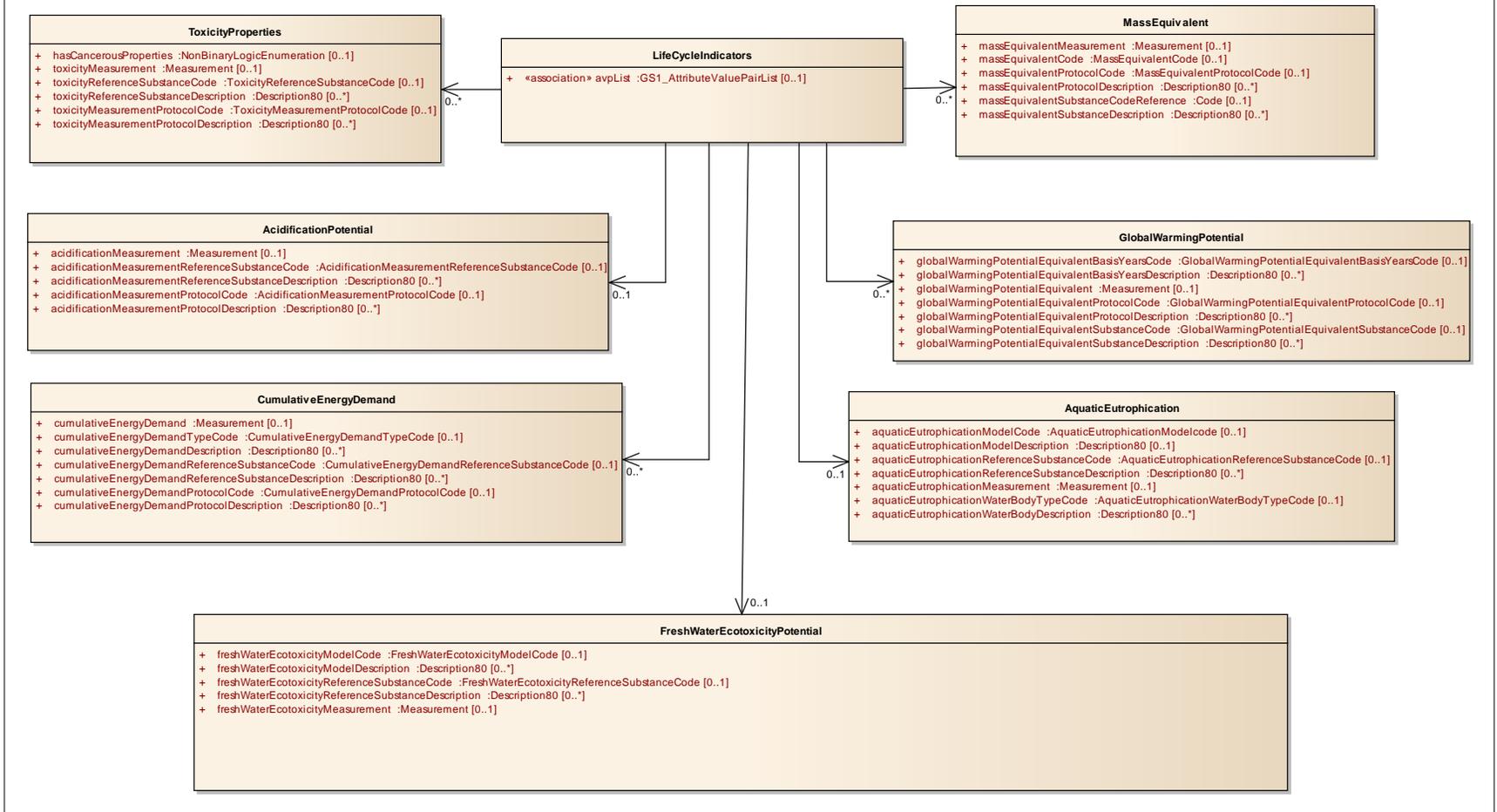


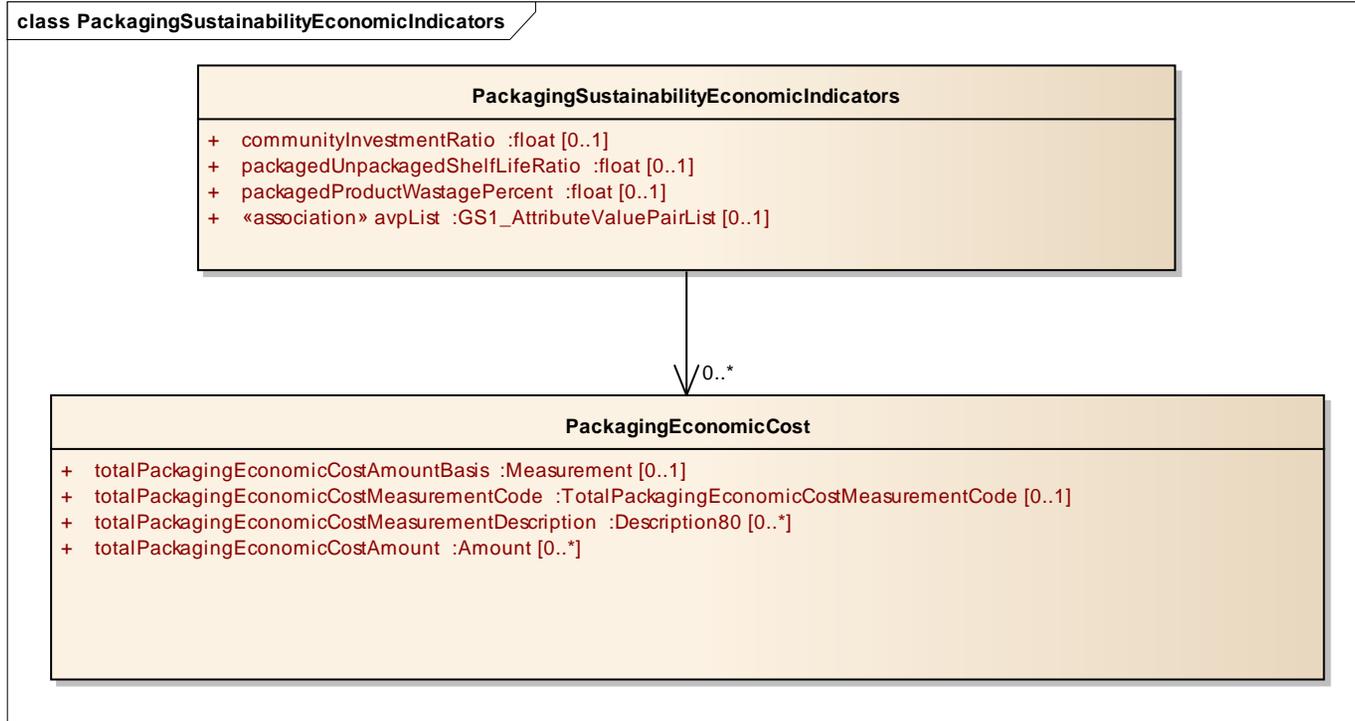


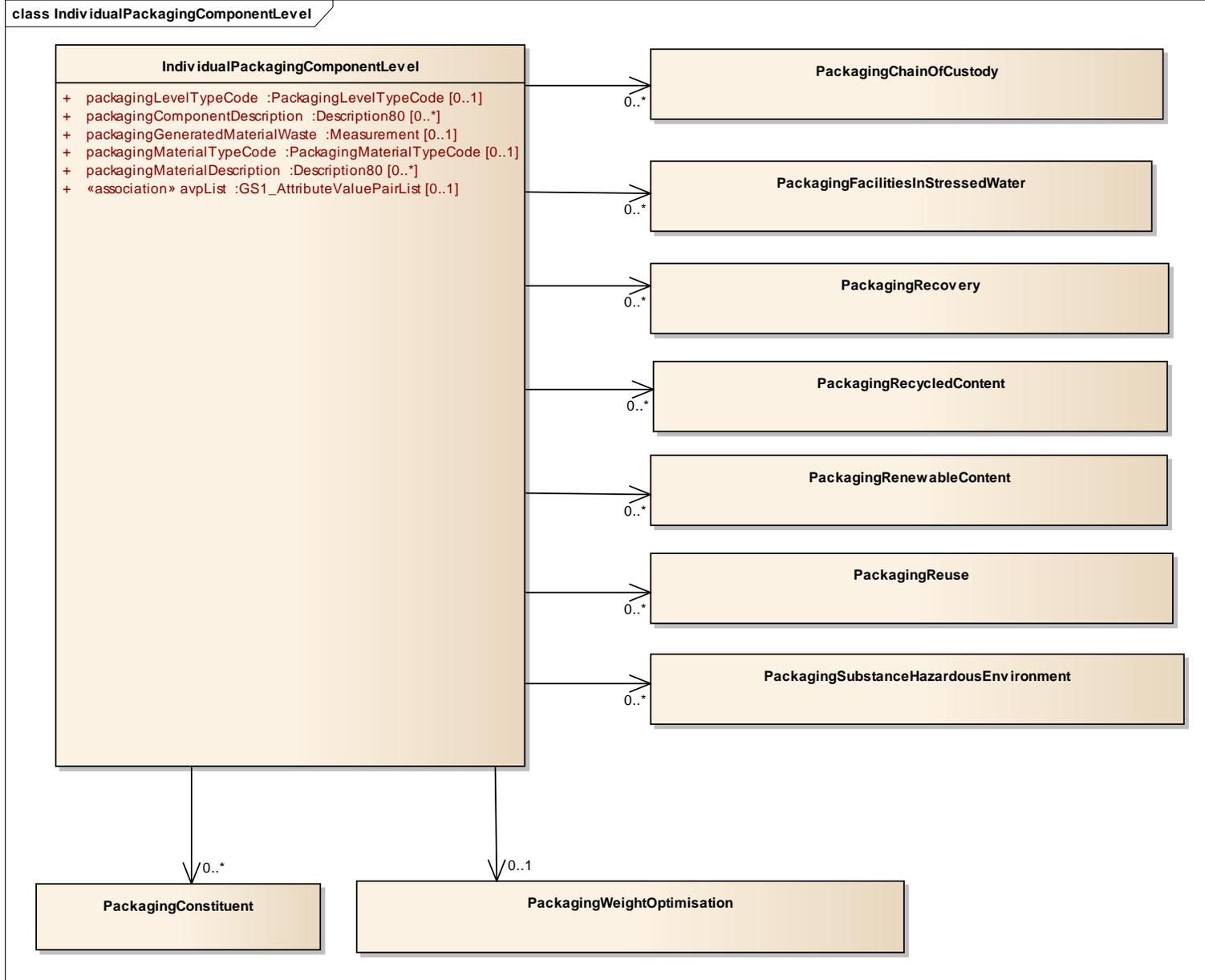
## 5.39. Packaging Sustainability Module

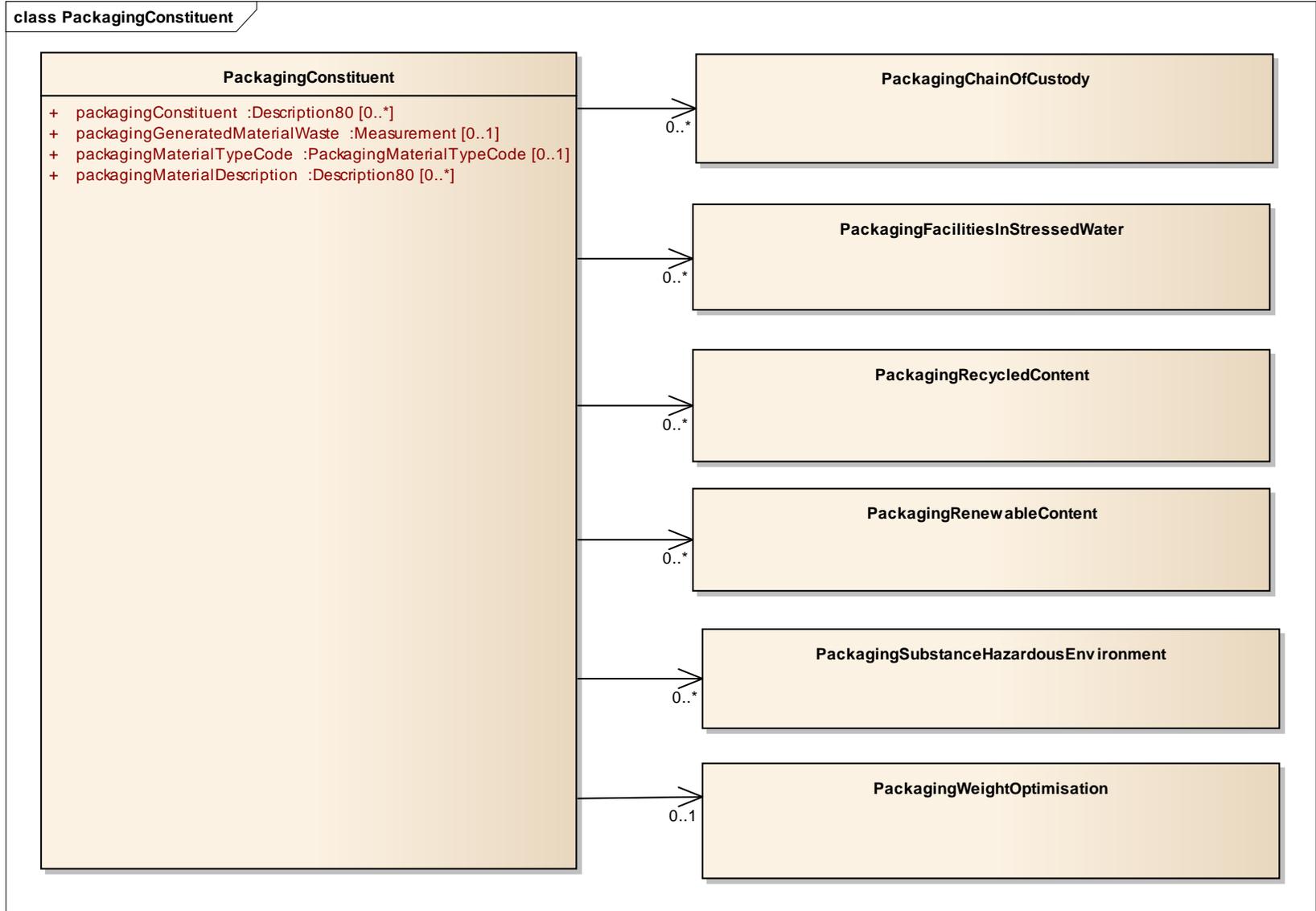


class LifeCycleIndicators











class Packaging\_Sustainability\_Module\_Classes

**PackagingChainOfCustody**

- + packagingChainOfCustodyEventSequenceNumber :nonNegativeInteger [0..1]
- + packagingChainOfCustodySourceCertifiedCode :PackagingChainOfCustodySourceCertifiedCode [0..1]
- + sourceCertificationSystemProtocolCode :SourceCertificationSystemProtocolCode [0..1]
- + sourceCertificationSystemProtocolDescription :Description80 [0..\*]

**PackagingFacilitiesInStressedWater**

- + facilitiesInStressedWaterAreaPercent :float [0..1]
- + facilitiesInStressedWaterAreaCalculationMethod :Description200 [0..\*]
- + numberOfFacilitiesInStressedWaterArea :nonNegativeInteger [0..1]

**PackagingRecovery**

- + doesPackagingRecoveryRateTypeCodeMeetTheStandard :NonBinaryLogicEnumeration [0..1]
- + packagingRecoveryRate :float [0..1]
- + packagingRecoveryRateDescription :Description80 [0..\*]
- + packagingRecoveryRateTypeCode :PackagingRecoveryRateTypeCode [0..1]
- + totalPackagingRecoveryRate :float [0..1]

**PackagingRecycledContent**

- + packagingRecycledContentRatio :float [0..1]
- + packagingRecycledContentTypeCode :PackagingRecycledContentTypeCode [0..1]
- + packagingRecycledContentDescription :Description80 [0..\*]

**PackagingRenewableContent**

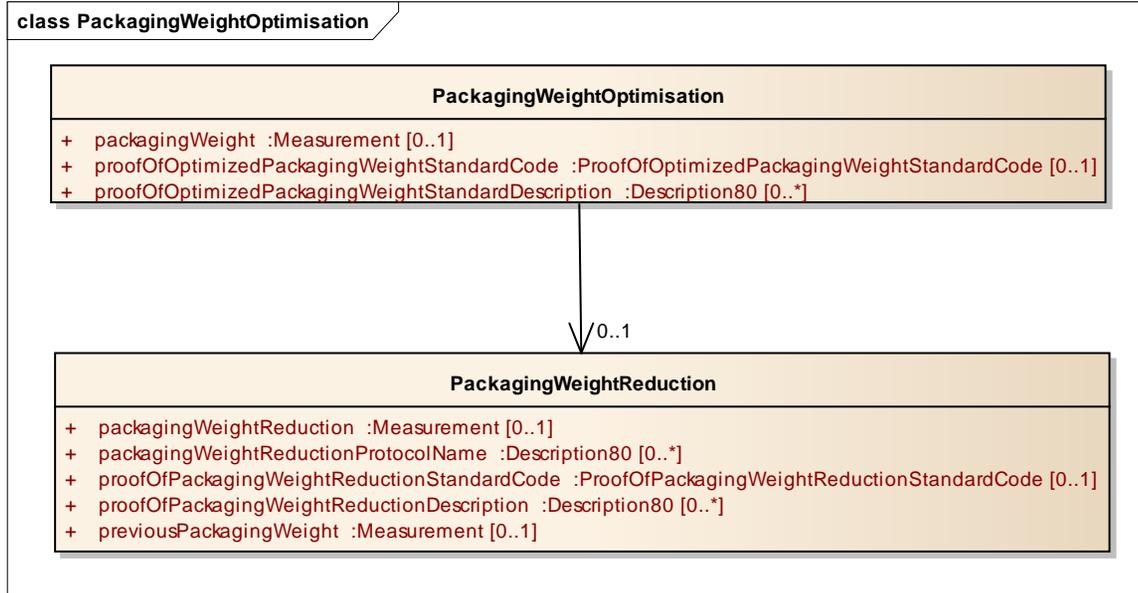
- + packagingRenewableContentRatio :float [0..1]
- + packagingRenewableContentTypeCode :PackagingRenewableContentTypeCode [0..1]
- + packagingRenewableContentDescription :Description80 [0..\*]

**PackagingReuse**

- + numberOfCyclesPriorToWithdrawal :nonNegativeInteger [0..1]
- + packagingReuseRate :float [0..1]
- + packagingReusabilityStandardCode :PackagingReusabilityStandardCode [0..1]
- + packagingReusabilityStandardDescription :Description80 [0..\*]

**PackagingSubstanceHazardousEnvironment**

- + haveYouMinimizedHazardousSubstance :NonBinaryLogicEnumeration [0..1]
- + hazardousSubstancesMinimizationCode :HazardousSubstancesMinimizationCode [0..1]
- + relevantSupportingSubstanceHazardousDocumentation :Description200 [0..\*]





class Code

<p>«dataType» <b>AcidificationMeasurementProtocolCode</b></p> <p>GS1Code</p>	<p>«dataType» <b>AcidificationMeasurementReferenceSubstanceCode</b></p> <p>GS1Code</p>	<p>«dataType» <b>AquaticEutrophicationModelCode</b></p> <p>GS1Code</p>	<p>«dataType» <b>AquaticEutrophicationReferenceSubstanceCode</b></p> <p>GS1Code</p>
<p>«dataType» <b>AquaticEutrophicationWaterBodyTypeCode</b></p> <p>GS1Code</p>	<p>«dataType» <b>CumulativeEnergyDemandProtocolCode</b></p> <p>GS1Code</p>	<p>«dataType» <b>CumulativeEnergyDemandReferenceSubstanceCode</b></p> <p>GS1Code</p>	<p>«dataType» <b>CumulativeEnergyDemandTypeCode</b></p> <p>GS1Code</p>
<p>«dataType» <b>FreshWaterEcotoxicityModelCode</b></p> <p>GS1Code</p>	<p>«dataType» <b>FreshWaterEcotoxicityReferenceSubstanceCode</b></p> <p>GS1Code</p>	<p>«dataType» <b>FunctionalBasisUnitCode</b></p> <p>GS1Code</p>	<p>«dataType» <b>GlobalWarmingPotentialEquivalentProtocolCode</b></p> <p>GS1Code</p>
<p>«dataType» <b>GlobalWarmingPotentialEquivalentSubstanceCode</b></p> <p>GS1Code</p>	<p>«dataType» <b>GlobalWarmingPotentialEquivalentBasisYearsCode</b></p> <p>GS1Code</p>	<p>«dataType» <b>HazardousSubstancesMinimizationCode</b></p> <p>GS1Code</p>	<p>«dataType» <b>MassEquivalentCode</b></p> <p>GS1Code</p>
<p>«dataType» <b>MassEquivalentProtocolCode</b></p> <p>GS1Code</p>	<p>«dataType» <b>PackagingChainOfCustodySourceCertifiedCode</b></p> <p>GS1Code</p>	<p>«dataType» <b>PackagingLevelTypeCode</b></p> <p>GS1Code</p>	
<p>«dataType» <b>PackagingRecoveryRateTypeCode</b></p> <p>GS1Code</p>	<p>«dataType» <b>PackagingRecycledContentTypeCode</b></p> <p>GS1Code</p>	<p>«dataType» <b>PackagingRenewableContentTypeCode</b></p> <p>GS1Code</p>	<p>«dataType» <b>PackagingReusabilityStandardCode</b></p> <p>GS1Code</p>
<p>«dataType» <b>ProofOfOptimizedPackagingWeightStandardCode</b></p> <p>GS1Code</p>	<p>«dataType» <b>ProofOfPackagingWeightReductionStandardCode</b></p> <p>GS1Code</p>	<p>«dataType» <b>SourceCertificationSystemProtocolCode</b></p> <p>GS1Code</p>	<p>«dataType» <b>TotalPackagingEconomicCostMeasurementCode</b></p> <p>GS1Code</p>
<p>«dataType» <b>ToxicityMeasurementProtocolCode</b></p> <p>GS1Code</p>	<p>«dataType» <b>ToxicityReferenceSubstanceCode</b></p> <p>GS1Code</p>		



content	attribute / role	datatype /secondary class	multiplicity	definition
AcidificationPotential				Acidification Potential is the potential of a chemical emission to acidify ecosystems. Emissions of acidifying substances strongly depend on industrial practice and environmental legislation.
attribute	acidificationMeasurement	Measurement	0..1	The measurement of acidification potential.
attribute	acidificationMeasurementReferenceSubstanceCode	Acidification MeasurementReferenceSubstanceCode	0..1	The reference substance used to represent the potential to acidify ecosystems.
attribute	acidificationMeasurementReferenceSubstanceDescription	Description 80	0..*	The reference substance description used to represent the potential to acidify ecosystems.
attribute	acidificationMeasurementProtocolCode	Acidification MeasurementProtocolCode	0..1	The reference protocol used to represent the potential to acidify ecosystems.
attribute	acidificationMeasurementProtocolDescription	Description 80	0..*	The reference protocol description used to represent the potential to acidify ecosystems.
AquaticEutrophication				Aquatic Eutrophication occurs when excessive amounts of nutrients reach freshwater systems or oceans. Algae bloom may result and fish may disappear. Whereas phosphorous is mainly responsible for eutrophication in freshwater systems, nitrogen is mainly responsible for eutrophication in ocean water bodies.
attribute	aquaticEutrophicationModelCode	AquaticEutrophicationModelCode	0..1	The model determining the degree of aquatic eutrophication
attribute	aquaticEutrophicationModelDescription	Description 80	0..1	The model description determining the degree of aquatic eutrophication
attribute	aquaticEutrophicationReferenceSubstanceCode	AquaticEutrophicationReferenceSubstanceCode	0..1	The reference substance used to represent aquatic eutrophication potential.
attribute	aquaticEutrophicationReferenceSubstanceDescription	Description 80	0..*	The reference substance used to represent aquatic eutrophication potential.
attribute	aquaticEutrophicationMeasurement	Measurement	0..1	The measurement of Aquatic Eutrophication per functional unit.
attribute	aquaticEutrophicationWaterBodyTypeCode	AquaticEutrophicationWaterBodyTypeCode	0..1	The type of water body that aquatic eutrophication is being measured for.



content	attribute / role	datatype /secondary class	multiplicity	definition
attribute	aquaticEutrophicationWaterBodyDescription	Description 80	0..*	The description of water body that aquatic eutrophication is being measured for.
CumulativeEnergyDemand				Provides the cumulative energy demand information details.
attribute	cumulativeEnergyDemand	Measurement	0..1	CED is a statement of the entire energy demand for a given product or service composed by a renewable part (CEDR) and a non-renewable part (CEDNR).
attribute	cumulativeEnergyDemandTypeCode	Cumulative EnergyDemandTypeCode	0..1	The type of cumulative energy demand that is being measured for.
attribute	cumulativeEnergyDemandDescription	Description 80	0..*	The description of cumulative energy demand that is being measured for.
attribute	cumulativeEnergyDemandReferenceSubstanceCode	Cumulative EnergyDemandReferenceSubstanceCode	0..1	The reference substance used to represent cumulative energy demand.
attribute	cumulativeEnergyDemandReferenceSubstanceDescription	Description 80	0..*	The reference substance description used to represent cumulative energy demand.
attribute	cumulativeEnergyDemandProtocolCode	Cumulative EnergyDemandProtocolCode	0..1	The reference protocol used to represent the potential to cumulative energy demand.
attribute	cumulativeEnergyDemandProtocolDescription	Description 80	0..*	The reference protocol description used to represent the potential to cumulative energy demand.
FreshWaterEcotoxicityPotential				Provides the freshwater ecotoxicity potential information.
attribute	freshWaterEcotoxicityModelCode	FreshWater Ecotoxicity ModelCode	0..1	The model used to determine freshwater ecotoxicity.
attribute	freshWaterEcotoxicityModelDescription	Description 80	0..*	The model description used to determine freshwater ecotoxicity.
attribute	freshWaterEcotoxicityReferenceSubstanceCode	FreshWater Ecotoxicity ReferenceSubstanceCode	0..1	The reference substance used to represent freshwater ecotoxicity.
attribute	freshWaterEcotoxicityReferenceSubstanceDescription	Description 80	0..*	The reference substance description used to represent freshwater ecotoxicity.



content	attribute / role	datatype /secondary class	multiplicity	definition
attribute	freshWaterEcotoxicity Measurement	Measurement	0..1	The measurement of freshwater ecotoxicity according to the following formula: kg [chemical reference] eq / FU.
GlobalWarmingPotential				Provides the global warming potential information.
attribute	globalwarmingPotentialEquivalentBasisYearsCode	GlobalWarmingPotentialEquivalentBasisYearsCode	0..1	The time perspective over which global warming potential is considered (20, 100, 500 years). Use the characterization factors of the 4th assessment report of the Intergovernmental Panel on Climate Change (IPCC). A 100 year time perspective is recommended. The time perspective chosen should always be communicated together with the metric.
attribute	globalwarmingPotentialEquivalentBasisYearsDescription	Description 80	0..*	The time perspective description over which global warming potential is considered. Use the characterization factors of the 4th assessment report of the Intergovernmental Panel on Climate Change (IPCC). A 100 year time perspective is recommended. The time perspective chosen should always be communicated together with the metric.
attribute	globalwarmingPotentialEquivalent	Measurement	0..1	The associated mass of CO2 equivalents associated with the Functional Unit.
attribute	globalwarmingPotentialEquivalentProtocolCode	GlobalWarmingPotentialEquivalentProtocolCode	0..1	The reference protocol used to represent the potential to global warming.
attribute	globalwarmingPotentialEquivalentProtocolDescription	Description 80	0..*	The reference protocol description used to represent the potential to global warming.
attribute	globalwarmingPotentialEquivalentSubstanceCode	GlobalWarmingPotentialEquivalentSubstanceCode	0..1	The reference substance used to represent the potential to global warming.
attribute	globalwarmingPotentialEquivalentSubstanceDescription	Description 80	0..*	The reference protocol description used to represent the potential to global warming.
IndividualPackagingComponentLevel				Provides the individual packaging components details.
Association		Packaging RecycledContent	0..*	Provides the recycled content information.
Association		Packaging ChainOfCustody	0..*	Provides the chain of custody information.



content	attribute / role	datatype /secondary class	multiplicity	definition
Association		PackagingFacilitiesInStressedWater	0..*	Provides the facilities in stress water information.
Association		PackagingRecovery	0..*	Provides the packaging recovery information
Association		PackagingConstituent	0..*	Provides the packaging constituent information.
Association		PackagingReuse	0..*	Provides the packaging reuse information
Association		PackagingSubstanceHazardousEnvironment	0..*	Provides the substance hazardous environment information.
Association		PackagingWeightOptimisation	0..1	Provides the packaging weight optimisation information.
Association		PackagingRenewableContent	0..*	Provides the renewable content information
attribute	packagingLevelTypeCode	PackagingLevelTypeCode	0..1	Provides the packaging level.
attribute	packagingComponentDescription	Description 80	0..*	Part of packaging that can be separated by hand or by using simple physical means (EN 13427, ISO/DIS 18601), for example a packaging film.
attribute	packagingGeneratedMaterialWaste	Measurement	0..1	The mass of material waste generated during the production and transport of packaging materials, packaging constituents, packaging components or packaging systems destined to final disposal, i.e. landfill or incineration without heat recovery.
attribute	packagingMaterialTypeCode	PackagingMaterialTypeCode	0..1	A code that provides the packaging material.
attribute	packagingMaterialDescription	Description 80	0..*	A description of the packaging material.
attribute	avpList	GS1_AttributeValuePairList	0..1	Attribute value pair information.
LifeCycleIndicators				Provides the environmental indicator information.
Association		GlobalWarmingPotential	0..*	Provides the global warming potential information.
Association		AcidificationPotential	0..1	Provides the acidification potential information.



content	attribute / role	datatype /secondary class	multiplicity	definition
Association		AquaticEutrophication	0..1	Provides the aquatic eutrophication information.
Association		MassEquivalent	0..*	Provides the mass equivalent information.
Association		ToxicityProperties	0..*	Provides the toxicity properties information.
Association		FreshWaterEcotoxicityPotential	0..1	Provides the freshwater ecotoxicity potential information.
Association		CumulativeEnergyDemand	0..*	Provides the cumulative energy demand information.
attribute	avpList	GS1_AttributeValuePairList	0..1	Attribute value pair information.
MassEquivalent				Provides the mass equivalent information.
attribute	massEquivalentMeasurement	Measurement	0..1	The measurement for the mass equivalent code.
attribute	massEquivalentCode	MassEquivalentCode	0..1	The type of mass equivalent being measured.
attribute	massEquivalentProtocolCode	MassEquivalentProtocolCode	0..1	The protocol code related to the mass equivalent code. Based On MassEquivalentCode, use one of following: <ul style="list-style-type: none"> <li>• Mass Equivalent Fresh Water Consumption Protocol Code</li> <li>• Mass Equivalent Ionizing Radiation Human Protocol Code</li> <li>• Mass Equivalent Land Use Protocol Code</li> <li>• Mass Equivalent Nonrenewable Resource Depletion Protocol Code</li> <li>• Mass Equivalent Ozone Depletion Protocol Code</li> <li>• Mass Equivalent Particulate Respiratory Effects Protocol Code</li> <li>• Mass Equivalent Photochemical Ozone Creation Potential Protocol Code.</li> </ul>
attribute	massEquivalentProtocolDescription	Description80	0..*	The protocol description related to the mass equivalent code.
attribute	massEquivalentSubstanceCodeReference	Code	0..1	The substance code related to the mass equivalent code. Based On MassEquivalentCode, use one of following: <ul style="list-style-type: none"> <li>• Mass Equivalent Fresh Water Consumption Substance Code</li> <li>• Mass Equivalent Ionizing Radiation Human Substance Code</li> <li>• Mass Equivalent Land Use Substance Code</li> <li>• Mass Equivalent Non Renewable Resource Depletion Substance Code</li> <li>• Mass Equivalent Ozone Depletion Reference Substance Code</li> <li>• Mass Equivalent Particulate Respiratory Effects Reference Substance Code.</li> </ul>



content	attribute / role	datatype /secondary class	multiplicity	definition
attribute	massEquivalentSubstanceDescription	Description 80	0..*	The substance description related to the mass equivalent code
PackagingChainOfCustody				Provides the packaging chain of custody information.
attribute	packagingChainOfCustodyEventSequenceNumber	nonNegativeInteger	0..1	The linked set of organizations, from point of harvest or extraction to point of purchase, that have held legal ownership or physical control of raw materials or recycled materials, used in packaging constituents, packaging components, or packaging systems.
attribute	packagingChainOfCustodySourceCertifiedCode	PackagingChainOfCustodySourceCertifiedCode	0..1	A code that determines whether the source has been certified.
attribute	sourceCertificationSystemProtocolCode	SourceCertificationSystemProtocolCode	0..1	Provides the organisation(s) identification that certifies the source. (e.g. Forest Stewardship Council, Sustainable Forestry Initiative, Programme for Endorsement of Forest Certification.)
attribute	sourceCertificationSystemProtocolDescription	Description 80	0..*	Provides the organisation(s) identification that certifies the source. (e.g. Forest Stewardship Council, Sustainable Forestry Initiative, Programme for Endorsement of Forest Certification.)
PackagingConstituent				Provides the packaging constituent information.
Association		PackagingSubstanceHazardousEnvironment	0..*	Provides the substance hazardous environment information.
Association		PackagingChainOfCustody	0..*	Provides the chain of custody information.
Association		PackagingRenewableContent	0..*	Provides the renewable content information
Association		PackagingRecycledContent	0..*	Provides the recycled content information.
Association		PackagingFacilitiesInStressedWater	0..*	Provides the facilities in stress water information.
Association		PackagingWeightOptimisation	0..1	Provides the packaging weight optimisation information.
attribute	packagingConstituent	Description 80	0..*	Provides the packaging constituent



content	attribute / role	datatype /secondary class	multiplicity	definition
attribute	packagingGeneratedMaterialWaste	Measurement	0..1	The mass of material waste generated during the production and transport of packaging materials, packaging constituents, packaging components or packaging systems destined to final disposal, i.e. landfill or incineration without heat recovery
attribute	packagingMaterialTypeCode	PackagingMaterialTypeCode	0..1	A code that provides the packaging material.
attribute	packagingMaterialDescription	Description80	0..*	A description of the packaging material.
PackagingEconomicCost				Provides the packaging economic cost information.
attribute	totalPackagingEconomicCostAmountBasis	Measurement	0..1	The basis amount or quantity used to determine the packaging costs for example 1 kg, 1000 units, 1 year
attribute	totalPackagingEconomicCostMeasurementCode	TotalPackagingEconomicCostMeasurementCode	0..1	A code determining the packaging component, material, etc that is cost and being determined for.
attribute	totalPackagingEconomicCostMeasurementDescription	Description80	0..*	A description determining the packaging component, material, etc that is cost and being determined for.
attribute	totalPackagingEconomicCostAmount	Amount	0..*	The total cost of all materials, energy, equipment and direct labour used during the sourcing of raw, recycled and reused materials and the production, filling, transport and/or disposal of packaging materials, packaging components or units of packaging.
PackagingFacilitiesInStressedWater				Provides the ability to communicate information about production sites located in areas with conditions of water stress or scarcity.
attribute	facilitiesInStressedWaterAreaPercent	float	0..1	Percent of facilities owned by a single operator located in an area identified as a stressed or scarce water resource area.
attribute	facilitiesInStressedWaterAreaCalculationMethod	Description200	0..*	The approach or tool used to determine water stress or scarcity should be identified (e.g. Global Water Tool, ETH Water Scarcity Index).
attribute	numberOfFacilitiesInStressedWaterArea	nonNegativeInteger	0..1	The number of facilities involved with the production of packaging materials (including recycled materials), packaging constituents, packaging components or units of packaging and/or filling and sealing of units of packaging that operate in areas identified as stressed or scarce fresh water resource area.
PackagingRecoveryAssociation				Provides the packaging recovery information.
attribute	doesPackagingRecoveryRateTypeCodeMeetTheStandard	NonBinaryLogicEnumeration	0..1	Determine if the packaging recovery rate meet the standard.



content	attribute / role	datatype /secondary class	multiplicity	definition
attribute	packagingRecoveryRate	float	0..1	The mass fraction or absolute mass of packaging recovered from all sources (commercial and residential) based on relevant waste management statistics.
attribute	packagingRecoveryRateDescription	Description 80	0..*	The description of the recovery applicable to the packaging.
attribute	packagingRecoveryRateTypeCode	Packaging RecoveryRateTypeCode	0..1	A code determining the type of recovery applicable to the packaging.
attribute	totalPackagingRecoveryRate	float	0..1	Expressed as cumulative sum of recovery rate by recovery method in % of total packaging weight [% wt.] placed on the market or as mass expressed by rate x total packaging weight put on the market.
PackagingRecycledContent				Provides the recycled content information
attribute	packagingRecycledContentRatio	float	0..1	The ratio of recycled material to total material used in packaging constituents, packaging components, or packaging systems
attribute	packagingRecycledContentTypeCode	Packaging RecycledContentTypeCode	0..1	The type of recycled content that is being measured for.
attribute	packagingRecycledContentDescription	Description 80	0..*	The description of recycled content that is being measured for.
PackagingRenewableContent				Provides the packaging renewable content information.
attribute	packagingRenewableContentRatio	float	0..1	The ratio of renewable material used to total material used in packaging constituents, components, units of packaging or packaging systems.
attribute	packagingRenewableContentTypeCode	Packaging RenewableContentTypeCode	0..1	The type of renewable content that is being measured for.
attribute	packagingRenewableContentDescription	Description 80	0..*	The description of renewable content that is being measured for.
PackagingReuse				Provides the packaging reuse information.
attribute	numberOfCyclesPriorToWithdrawal	nonNegativeInteger	0..1	Determines reusability in accordance with EN 13429 or ISO/DIS18603.
attribute	packagingReuseRate	float	0..1	The number of times packaging accomplishes the same use, rotation or trip for which it was conceived and designed within its life cycle. Demonstration of reusability must first be established in accordance with EN 13429 or ISO/DIS18603 once final.
attribute	packagingReusabilityStandardCode	Packaging ReusabilityStandardCode	0..1	The reusability standard used to determine packaging reuse rate.



content	attribute / role	datatype /secondary class	multiplicity	definition
attribute	packagingReusabilityStandardDescription	Description 80	0..*	The description for the reusability standard used to determine packaging reuse rate.
PackagingSubstanceHazardousEnvironment				Provides the packaging substance hazardous environment information.
attribute	haveYouMinimizedHazardousSubstance	NonBinaryLogicEnumeration	0..1	Meeting the requirements of EN 13428 or ISO 18602 on heavy metals and dangerous/hazardous substances.
attribute	hazardousSubstancesMinimizationCode	HazardousSubstancesMinimizationCode	0..1	Assessment and minimization of substances, or mixtures, hazardous to the environment in packaging constituents, components, or systems that are at risk of entering the environment.
attribute	relevantSupportingSubstanceHazardousDocumentation	Description 200	0..*	This is a certificate of compliance with relevant legislation. So the metric is a simple yes qualified with supporting documentation or a no.
PackagingSustainabilityEconomicIndicators				Provides the packaging sustainability economic indicator information.
Association		PackagingEconomicCost	0..*	Provides the packaging economic cost information
attribute	communityInvestmentRatio	float	0..1	The value of investments made in community projects related to packaging such as recycling education programs or recycling infrastructure development over and above regulated requirements.
attribute	packagedUnpackagedShelfLifeRatio	float	0..1	The ratio of a product's shelf life in packaging to a product's shelf life without packaging.
attribute	packagedProductWastePercent	float	0..1	Cost of wasted goods expressed as a percentage of cost of goods sold per annum.
attribute	avpList	GS1_AttributeValuePairList	0..1	Attribute value pair information.
PackagingSustainabilityModule				Provides the packaging sustainability module information
Association		IndividualPackagingComponentLevel	0..*	Provides the packaging level details.
Association		LifeCycleIndicators	0..1	Provides the life cycle indicator information.
Association		PackagingSustainabilityEconomicIndicators	0..1	Provides the packaging sustainability economic information



content	attribute / role	datatype /secondary class	multiplicity	definition
attribute	functionalBasisUnitCode	FunctionalBasisUnitCode	0..1	Code of the functional basis unit.
attribute	functionalBasisUnitDescription	Description80	0..*	Description of the functional basis unit.
attribute	packagingCubeUtilisationRatio	float	0..1	The overall volumetric measurement of packaging design efficiency. Expressed as the total volume of product in a pallet or other transport unit divided by either the volume of the transport unit or the space allotted to the transport unit, whichever is greater.
attribute	packagingToTradellemWeightRatio	float	0..1	The ratio of the weight of all packaging material used to the weight of the product or functional unit delivered. The weight of all packaging components used in the packaging system per functional unit (i.e. per consumer use as expressed by e.g. per serving for food & beverages, per washing cycle for detergent).
attribute	packagingWeightPerConsumerUse	Measurement	0..1	The weight of all packaging components used in the packaging system per consumer use.
attribute	quantityOfFunctionalBasisUnit	Measurement	0..1	Quantity of the functional basis unit.
attribute	avpList	GS1_AttributeValuePairList	0..1	Attribute value pair information.
PackagingWeightOptimisation				Provides the packaging weight optimisation details.
Association		PackagingWeightReduction	0..1	Provides the packaging weight reduction information.
attribute	packagingWeight	Measurement	0..1	The weight and identity of a packaging constituent, component or system which changes hands in the supply chain.
attribute	proofOfOptimizedPackagingWeightStandardCode	ProofOfOptimizedPackagingWeightStandardCode	0..1	The demonstration that the packaging has been minimized by weight or volume in accordance with EN 13428 or ISO/DIS 18602.
attribute	proofOfOptimizedPackagingWeightStandardDescription	Description80	0..*	The description for the proof of adequate packaging weight
PackagingWeightReduction				Provides the packaging weight reduction information.
attribute	packagingWeightReduction	Measurement	0..1	The reduction of packaging weight with regards to a previous reference state expressed as a percentage reduction or an absolute weight reduction [e.g. g or kg / packaging constituent, component or system].
attribute	packagingWeightReductionProtocolName	Description80	0..*	The protocol name that the calculation is based on (i.e. packaging weight reduction should be calculated according to the protocol stipulated in GPPS 2.0).



content	attribute / role	datatype /secondary class	multiplicity	definition
attribute	proofOfPackagingWeightReductionStandardCode	ProofOfPackagingWeightReductionStandardCode	0..1	The standard for the proof of packaging weight reduction is based on.
attribute	proofOfPackagingWeightReductionDescription	Description 80	0..*	The description for the proof of packaging weight reduction is based on.
attribute	previousPackagingWeight	Measurement	0..1	The packaging weight of the previous product used to calculate the packaging weight reduction.
ToxicityProperties				Provides the toxicity properties information.
attribute	hasCancerousProperties	NonBinaryLogicEnumeration	0..1	The Toxicity, Cancer indicator evaluates potential cancer-related health outcomes that may occur due to the emissions associated with a given product or process.
attribute	toxicityMeasurement	Measurement	0..1	The amount of the cancerous substance per functional unit
attribute	toxicityReferenceSubstanceCode	ToxicityReferenceSubstanceCode	0..1	The reference substance or unit which is used to represent cancerous toxicity effects.
attribute	toxicityReferenceSubstanceDescription	Description 80	0..*	The reference substance description or unit which is used to represent cancerous toxicity effects.
attribute	toxicityMeasurementProtocolCode	ToxicityMeasurementProtocolCode	0..1	The protocol code used for the measurement.
attribute	toxicityMeasurementProtocolDescription	Description 80	0..*	The description of the protocol used for the measurement.
IndividualPackagingComponentsSustainability				Provides the individual packaging components details.
attribute	avpList	GS1_AttributeValuePairList	0..1	Attribute value pair information.
LifeCycleIndicators				Provides the environmental indicator information.
Association		GlobalWarmingPotential	0..*	Provides the global warming potential information.
Association		AcidificationPotential	0..1	Provides the acidification potential information.
Association		AquaticEutrophication	0..1	Provides the aquatic eutrophication information.
Association		MassEquivalent	0..*	Provides the mass equivalent information.
Association		ToxicityProperties	0..*	Provides the toxicity properties information.



content	attribute / role	datatype /secondary class	multiplicity	definition
Association		FreshWater Ecotoxicity Potential	0..1	Provides the freshwater ecotoxicity potential information.
Association		Cumulative EnergyDemand	0..*	Provides the cumulative energy demand information.
attribute	avpList	GS1_AttributeValuePairList	0..1	Attribute value pair information.
MassEquivalent				Provides the mass equivalent information.
attribute	massEquivalentMeasurement	Measurement	0..1	The measurement for the mass equivalent code.
attribute	massEquivalentCode	MassEquivalentCode	0..1	The type of mass equivalent being measured.
attribute	massEquivalentProtocolCode	MassEquivalentProtocolCode	0..1	The protocol code related to the mass equivalent code.
attribute	massEquivalentProtocolDescription	Description80	0..*	The protocol description related to the mass equivalent code.
attribute	massEquivalentSubstanceCodeReference	Code	0..1	The substance code related to the mass equivalent code.
attribute	massEquivalentSubstanceDescription	Description80	0..*	The substance description related to the mass equivalent code
PackagingChainOfCustody				Provides the packaging chain of custody information.
attribute	packagingChainOfCustodyEventSequenceNumber	nonNegativeInteger	0..1	The linked set of organizations, from point of harvest or extraction to point of purchase, that have held legal ownership or physical control of raw materials or recycled materials, used in packaging constituents, packaging components, or packaging systems.
attribute	packagingChainOfCustodySourceCertifiedCode	PackagingChainOfCustodySourceCertifiedCode	0..1	A code that determines whether the source has been certified.
attribute	sourceCertificationSystemProtocolCode	SourceCertificationSystemProtocolCode	0..1	Provides the organisation(s) identification that certifies the source. (e.g. Forest Stewardship Council, Sustainable Forestry Initiative, Programme for Endorsement of Forest Certification.)
attribute	sourceCertificationSystemProtocolDescription	Description80	0..*	Provides the organisation(s) identification that certifies the source. (e.g. Forest Stewardship Council, Sustainable Forestry Initiative, Programme for Endorsement of Forest Certification.)
PackagingConstituent				Provides the packaging constituent information.



content	attribute / role	datatype /secondary class	multiplicity	definition
Association		PackagingSubstanceHazardousEnvironment	0..*	Provides the substance hazardous environment information.
Association		PackagingChainOfCustody	0..*	Provides the chain of custody information.
Association		PackagingRenewableContent	0..*	Provides the renewable content information
Association		PackagingRecycledContent	0..*	Provides the recycled content information.
Association		PackagingFacilitiesInStressedWater	0..*	Provides the facilities in stress water information.
Association		PackagingWeightOptimisation	0..1	Provides the packaging weight optimisation information.
attribute	packagingConstituent	Description80	0..*	Provides the packaging constituent
attribute	packagingGeneratedMaterialWaste	Measurement	0..1	The mass of material waste generated during the production and transport of packaging materials, packaging constituents, packaging components or packaging systems destined to final disposal, i.e. landfill or incineration without heat recovery
attribute	packagingMaterialTypeCode	PackagingMaterialTypeCode	0..1	A code that provides the packaging material.
attribute	packagingMaterialDescription	Description80	0..*	A description of the packaging material.
PackagingEconomicCost				Provides the packaging economic cost information.
attribute	totalPackagingEconomicCostAmountBasis	Measurement	0..1	The basis amount or quantity used to determine the packaging costs for example 1 kg, 1000 units, 1 year
attribute	totalPackagingEconomicCostMeasurementCode	TotalPackagingEconomicCostMeasurementCode	0..1	A code determining the packaging component, material, etc that is cost and being determined for.
attribute	totalPackagingEconomicCostMeasurementDescription	Description80	0..*	A description determining the packaging component, material, etc that is cost and being determined for.



content	attribute / role	datatype /secondary class	multiplicity	definition
attribute	totalPackagingEconomicCostAmount	Amount	0..*	The total cost of all materials, energy, equipment and direct labour used during the sourcing of raw, recycled and reused materials and the production, filling, transport and/or disposal of packaging materials, packaging components or units of packaging.
PackagingRecovery Association				Provides the packaging recovery information.
attribute	doesPackagingRecoveryRateTypeCodeMeetTheStandard	Packaging RecoveryRate	0..1	Provides the packaging recovery rate information.
attribute	packagingRecoveryRate	NonBinaryLogicEnumeration	0..1	Determine if the packaging recovery rate meet the standard.
attribute	packagingRecoveryRateDescription	float	0..1	The mass fraction or absolute mass of packaging recovered from all sources (commercial and residential) based on relevant waste management statistics.
attribute	packagingRecoveryRateTypeCode	Description 80	0..*	The description of the recovery applicable to the packaging.
attribute	totalPackagingRecoveryRate	Packaging RecoveryRateTypeCode	0..1	A code determining the type of recovery applicable to the packaging.
attribute	packagingRecycledContentRatio	float	0..1	Expressed as cumulative sum of recovery rate by recovery method in % of total packaging weight [% wt.] placed on the market or as mass expressed by rate x total packaging weight put on the market.
PackagingRecycledContent				Provides the recycled content information
attribute	packagingRecycledContentTypeCode	float	0..1	The ratio of recycled material to total material used in packaging constituents, packaging components, or packaging systems
attribute	packagingRecycledContentDescription	Packaging RecycledContentTypeCode	0..1	The type of recycled content that is being measured for.
attribute	packagingRenewableContentRatio	Description 80	0..*	The description of recycled content that is being measured for.
PackagingRenewableContent				Provides the packaging renewable content information.
attribute	packagingRenewableContentTypeCode	float	0..1	The ratio of renewable material used to total material used in packaging constituents, components, units of packaging or packaging systems.
attribute	packagingRenewableContentDescription	Packaging RenewableContentTypeCode	0..1	The type of renewable content that is being measured for.
attribute		Description 80	0..*	The description of renewable content that is being measured for.



content	attribute / role	datatype /secondary class	multiplicity	definition
PackagingReuse				Provides the packaging reuse information.
attribute	numberOfCyclesPriorToWithdrawal	nonNegativeInteger	0..1	Determines reusability in accordance with EN 13429 or ISO/DIS18603.
attribute	packagingReuseRate	float	0..1	The number of times packaging accomplishes the same use, rotation or trip for which it was conceived and designed within its life cycle. Demonstration of reusability must first be established in accordance with EN 13429 or ISO/DIS18603 once final.
attribute	packagingReusabilityStandardCode	Packaging Reusability StandardCode	0..1	The reusability standard used to determine packaging reuse rate.
attribute	packagingReusabilityStandardDescription	Description 80	0..*	The description for the reusability standard used to determine packaging reuse rate.
PackagingSustainabilityEconomicIndicators				Provides the packaging sustainability economic indicator information.
Association		PackagingEconomicCost	0..*	Provides the packaging economic cost information
attribute	communityInvestmentRatio	float	0..1	The value of investments made in community projects related to packaging such as recycling education programs or recycling infrastructure development over and above regulated requirements.
attribute	packagedUnpackagedShelfLifeRatio	float	0..1	The ratio of a product's shelf life in packaging to a product's shelf life without packaging.
attribute	packagedProductWastePercent	float	0..1	Cost of wasted goods expressed as a percentage of cost of goods sold per annum.
attribute	avpList	GS1_AttributeValuePairList	0..1	Attribute value pair information.
PackagingSustainabilityModule				Provides the packaging sustainability module information
Association		IndividualPackagingComponentLevel	0..*	Provides the packaging level details.
Association		LifeCycleIndicators	0..1	Provides the life cycle indicator information.
Association		PackagingSustainabilityEconomicIndicators	0..1	Provides the packaging sustainability economic information
attribute	functionalBasisUnitCode	FunctionalBasisUnitCode	0..1	Code of the functional basis unit.



content	attribute / role	datatype /secondary class	multiplicity	definition
attribute	functionalBasisUnitDescription	Description 80	0..*	Description of the functional basis unit.
attribute	packagingCubeUtilisationRatio	float	0..1	The overall volumetric measurement of packaging design efficiency. Expressed as the total volume of product in a pallet or other transport unit divided by either the volume of the transport unit or the space allotted to the transport unit, whichever is greater.
attribute	packagingToTradeltemWeightRatio	float	0..1	The ratio of the weight of all packaging material used to the weight of the product or functional unit delivered. The weight of all packaging components used in the packaging system per functional unit (i.e. per consumer use as expressed by e.g. per serving for food & beverages, per washing cycle for detergent).
attribute	packagingWeightPerConsumerUse	Measurement	0..1	The weight of all packaging components used in the packaging system per consumer use.
attribute	quantityOfFunctionalBasisUnit	Measurement	0..1	Quantity of the functional basis unit.
attribute	avpList	GS1_AttributeValuePairList	0..1	Attribute value pair information.
PackagingWeightOptimisation				Provides the packaging weight optimisation details.
Association		Packaging WeightReduction	0..1	Provides the packaging weight reduction information.
attribute	packagingWeight	Measurement	0..1	The weight and identity of a packaging constituent, component or system which changes hands in the supply chain.
attribute	proofOfOptimizedPackagingWeightStandardCode	ProofOfOptimizedPackagingWeightStandardCode	0..1	The demonstration that the packaging has been minimized by weight or volume in accordance with EN 13428 or ISO/DIS 18602.
attribute	proofOfOptimizedPackagingWeightStandardDescription	Description 80	0..*	The description for the proof of adequate packaging weight