



Checklist Design for Sustainable Sourcing



Project

Project name	[Please fill in]
Project number	[Please fill in]
Project manager	[Please fill in]
Date	[Please fill in]

Question	Explanation	Instructions	Result
Step 1: Checking Sustainability Goals Related to Precursor Material Sourcing			
Are there specific and up-to-date goals or standards for the environment/sustainability-oriented procurement of precursor materials?	In many companies or in the case of major brands, there are general purchasing guidelines/instructions related to working and environmental conditions that have to be observed when sourcing (precursor) materials and (also) packaging. In addition, there may be other basic goals for promoting the company or brand image which relate to the implementation of basic sustainability goals. To the extent that this has not already been done in the general management process (see the checklist "Management of Eco Design in Packaging Design Projects"), these goals should be made explicit for the further implementation of the strategy element.	If YES : If this has not already been done elsewhere, document these goals and (if necessary after repeating them in the overarching process) continue with the next item to be checked. If NO : continue with the next item to be checked.	[Please fill in]
Is there a preferred approach based on relevant environment/sustainability goals, such as bio-based materials?	In part, the requirement for the use of bio-based materials are made without linking with specific environmental objectives. Such a missing frame of reference prevents the operationalization of the evaluation of advantages and disadvantages.	If YES : document the goals and proceed to the next item to be checked. If NO : formulate the environmental goals that are still missing and (if necessary after repeating them in the overarching process) proceed to the next item to be checked.	[Please fill in]
Result: Existing environment/sustainability-related requirements for precursor materials were reviewed for the packaging project and, where not carried out previously, made explicit and documented.			

Question	Explanation	Instructions	Result
Step 2: Checking the Suitability of Alternative Precursor Materials (Bio-Based or Recycling-Based Raw Materials)			
Can the functional requirements of the packaging (or parts of it) also be ensured with the alternative precursor materials without changing the packaging design?	Depending on the characteristics of the alternative precursor materials, their technical properties correspond either to (i) fully "classic" primary / mineral oil-based materials or (ii) they have deviating technical properties which may require packaging design modifications	If YES : document this result (what alternative precursor materials can be used for which parts of the packaging?) Continue. If NO : state reasons and continue to review step 3.	[Please fill in]
Are there suppliers who are a) capable of delivering the precursor materials required in sufficient quantities (at the required level of quality) and b) are able to provide evidence of meeting sustainability requirements?	In particular in the field of bio-based plastics and with regard to recyclates of certain qualities, the possibility of a permanent supply or the presence of possible suppliers is not always given. Since many of the detection systems for sustainably sourced materials are currently still in development, it is often not possible to provide a sufficiently secure supply of suitably tested ("certified") material	If YES : document this and proceed to review step 3. If NO : document reasons (result of the review). Assess the possibility/option of establishing an adequate system of supply. If this is also answered in the negative: document reasons (result of the review). Proceed to review step 3.	[Please fill in]
Result: One (or more) packaging option(s) tested for the feasibility of alternative precursor material(s) with elaboration of any necessary modifications.			

Question	Explanation	Instructions	Result
Step 3: Determining Whether Sustainable Sourcing of Precursor Materials is Feasible			
<p>➔ <i>Initially, it is necessary to ask for which of the relevant precursor materials to be tested there are verification systems that check if sustainability aspects are being observed</i></p> <p>➔ <i>Subsequently, the individual aspects of sustainable procurement will be considered individually and the validity of the available detection systems examined.</i></p> <p>➔ <i>The test shall be carried out for all (quantitatively) relevant materials (for example with >5% of the total packaging weight) and the different alternatives of the materials in question (e.g. bio-based material, recycled material, etc.).</i></p>			
Has it been decided which precursor materials should be passed through the following review steps?	<p>With a view to the sustainability goals specified in step 1 for the packaging project, it is thus necessary to specify which (source) materials the test should initially apply to. The following are conceivable, for example:</p> <ul style="list-style-type: none"> • a limitation on alternative materials (as a result of step 1) • a complete test of all materials. For practical reasons, it may make sense to set a relevance threshold (e.g. all materials with a share of the packaging >1% or >5%) • deliberate selection of materials 	<p>If YES: document the 'list of materials' and continue If NO: agree upon, establish and document a 'list of materials', then continue.</p>	[Please fill in]
What kind of evidence of adherence to sustainability aspects in raw material production and processing is available for the different precursor materials to be tested?	<p>For many precursor materials, such verification systems that document compliance with relevant environmental requirements for raw material production and processing as well as minimum social standards are available on the market. The test intensity as well as the transparency and traceability of the documentation of the test results and the question of an independent review are important quality criteria.</p>	<p>For precursor materials that are to be reviewed, research and list the appropriate verification systems that are available on the market. If no verification systems are available, options for establishing your own verification system (in cooperation with the supply chain) should be assessed and the result (positive/negative) documented. Following this, continue.</p>	[Please fill in]
Is there a form of verification that confirms that competition with land use for food production was avoided?	<p>If the extraction of the precursor materials takes place on land that would otherwise be used for the cultivation of food, a from a sustainability point of view undesired competitive situation results. Competition with land can be inhibited by:</p> <ul style="list-style-type: none"> • Corresponding certifications • Supplier certifications • Other plausibility reasons 	<p>If YES: make a note of this in the case of the verification systems involved, including the kind of review. If NO: document accordingly. In the event that this is regarded as not relevant: state reasons and continue.</p>	[Please fill in]
Is there any verification that confirms that irreversible negative effects on natural space and biodiversity have been minimised?	<p>If the extraction of the precursor materials takes place on hitherto natural areas that are significant for biodiversity, the regeneration capacity of the biosphere is correspondingly impaired.</p>	<p>If YES: make a note of this in the case of the verification systems involved, including the kind of testing carried out. If NO: document accordingly. In the event that this is regarded as not relevant: state reasons and continue to the next review item.</p>	[Please fill in]

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Is there any verification that confirms that permanent negative effects of production on soils and water have been minimised?	In the case of precursor material sourcing the use of certain substances (such as pesticides or fertilizers) can cause a significant deterioration of the soil and the aquatic environment - this should be avoided.	If YES : make a note of this in the case of the verification systems involved, including the kind of testing carried out. If NO : document accordingly. In the event that this is regarded as not relevant : state reasons and continue.	[Please fill in]
Is there a form of verification that confirms that fresh water consumption was reduced to a level which guarantees long-term regeneration of local drinking water resources?	In many cases, sourcing of precursor material is accompanied by a (very high) demand for fresh water, which along with (intensive) groundwater extraction or the use of fresh water resources leads to a competition with drinking water supply. Besides during the cultivation of renewable raw materials, this may also be the case during their processing and also when conducting recycling processes under "simple" conditions	If YES : make a note of this in the case of the verification systems involved, including the kind of testing carried out. If NO : document accordingly. In the event that/If this is regarded as not relevant : state reasons and continue.	[Please fill in]
Is there a form of verification that confirms that current environmental protection process standards (e. g. in accordance with state-of-the-art best available techniques (BAT)) were/have been guaranteed?	The processing (or recycling) processes of the materials may be responsible for relevant negative environmental effects which are largely avoided by using appropriate environmental protection techniques. In view of the development dynamics of the environmental protection technologies, a current standard of protection is to be used more appropriately as a reference.	If YES : make a note of this in the case of the verification systems involved, including the kind of testing carried out. If NO : document accordingly. In the event that this is regarded as not relevant : state reasons and continue.	[Please fill in]
Is there a form of verification that confirms that during production and processing of raw materials fair working conditions were/have been maintained?	The extraction of the materials partly takes place in remote regions with few job alternatives. The observance of fair working conditions (for example, in compliance with the relevant ILO core labor standards) is of particular importance for the respective living conditions.	If YES : make a note of this for the various precursor materials (alternatives) in the case of the verification systems involved, including the kind of testing If NO : document accordingly. In the event that this is regarded as not relevant : state reasons and continue.	[Please fill in]
What kinds of verification of the observation of sustainability aspects during production and processing of raw materials are available for the precursor materials to be sourced?	For many precursor materials, there are such verification systems available on the market. However, they differ in which concrete environmental requirements or minimum social standards are to be checked and proven. Also the test intensity as well as transparency and traceability of the documentation of the test results as well as the question of the independence of the examination can be quite different.	List the (kind of) verification systems available for the relevant (quantities) of precursor materials. If no verification systems are available, possibilities/options for establishing your own verification system (in cooperation with the supply chain) should be assessed and the result documented. Continue.	[Please fill in]
Result: Documentation of the assessment procedure for possible precursor materials in terms of existing documents and certificates and their scope (the aspects of sustainability that they address).			

Frage	Erläuterung	Anleitung	Ergebnis
Step 4: Decision on Sustainable Precursor Material Sourcing			
Which precursor materials in the new packaging should be sourced while applying what	With regard to the environmental goals of the packaging project (see step 1), the technical and economic applicability of alternative materials (see step 2) and the	Selection of the alternative precursor materials and specification of the required verification systems (or	[Please fill in]

Frage	Erläuterung	Anleitung	Ergebnis
systems for verifying sustainability aspects?	checking of established sustainability certificates (see step 3), it should be specified whether and where alternative materials (bio-based or recycled) are used and for which (precursor) materials of the packaging what type of evidence of the sustainable design of the relevant upstream processes is required.	different systems for areas where different requirements apply). Documentation of decisions.	
Were the necessary modifications made in the packaging design appropriate for the chosen precursor-material options?	As already explained in step 2, the use of alternative (precursor) materials due to changed technical properties may necessitate a modification of packaging design (e.g. changed surface weights or seal types).	If YES : end of step 4. If NO : make the required design modifications, and then end step 4.	[Please fill in]
Does any modification of the packaging required as a result of the use of alternative precursor materials necessitate checking other elements of the Eco design strategy (once again)?	The modification of packaging required as a result of the use of alternative precursor material may necessitate the need to re-run other optimization approaches. The use of bio-based materials requires, in particular, the examination of the strategy element Design for Recycling: biobased materials can involve problems in terms of both sortability and actual recycling with existing systems and infrastructures.	If YES : state reasons and (if necessary, once again) check relevant optimisation approaches. If NO : document results and conclude the review process.	[Please fill in]
Result: Selection of alternative precursor materials while accounting for sustainability aspects and specifying appropriate verification systems in the context of sourcing.			