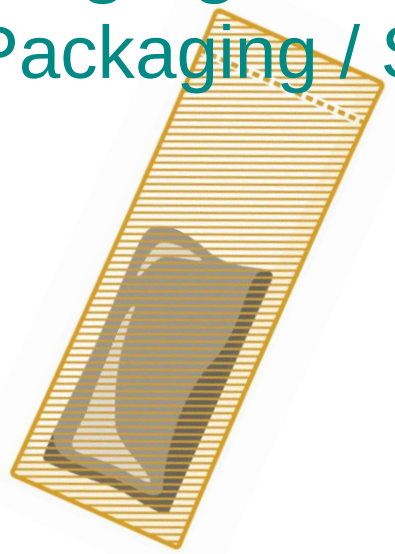
Round Table
Eco:Design
of Plastics Packaging

Guideline of the Round Table „Eco Design of Plastic Packaging“

Practical Example „Portion Packaging / Sachet“



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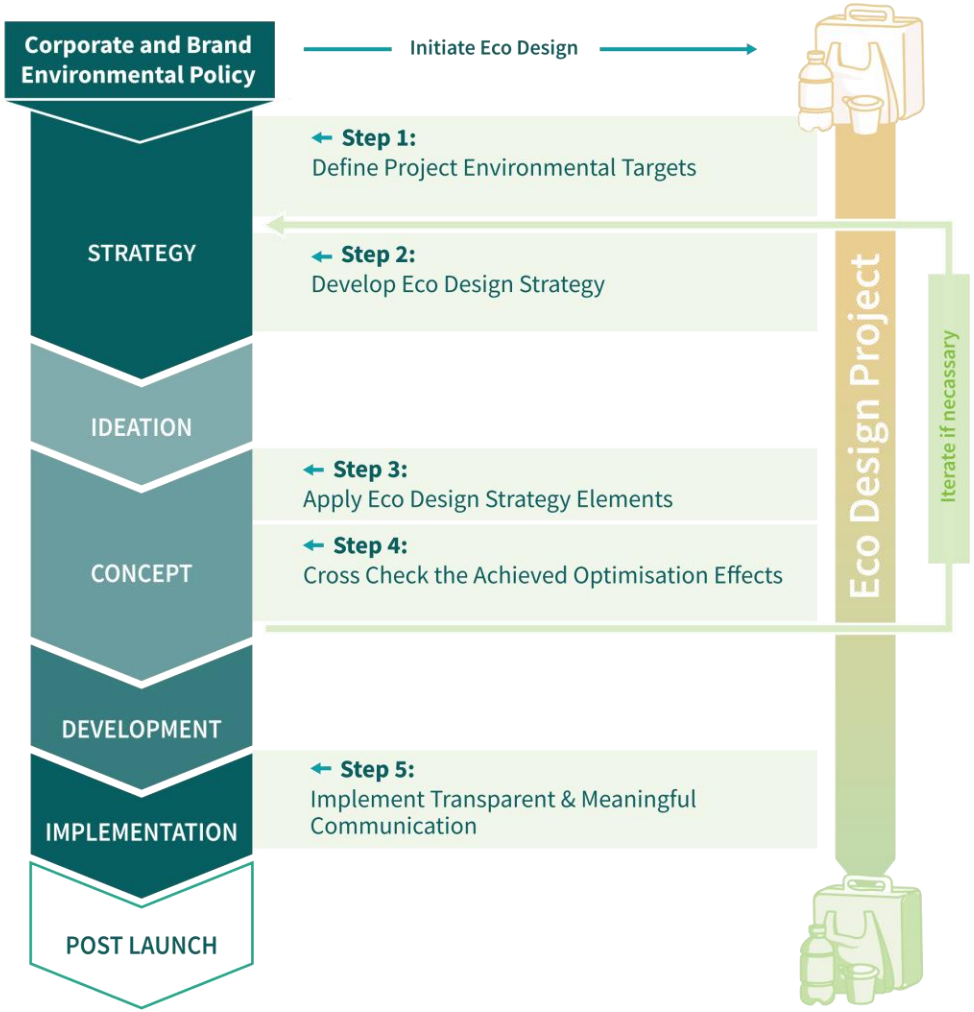
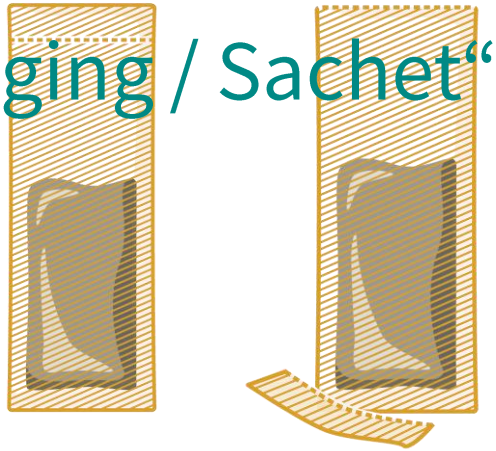
Practical Example „Portion Packaging / Sachet“





Initial situation: An existing packaging for 10ml Ketchup is to be redesigned. Negative environmental impacts should be minimised.

Specifications:

- Multilayer-sachet:
  - PE-layer
  - Al-layer
  - PET-layer
  - Laminating adhesive
- Weight: 11g
- Dimensions: 11cm*3,5cm

Step 1: Defining environmental goals for the packaging design project

Question	Documentation of Results
Does the environmental strategy of the **company** include clearly formulated environmental goals?	*No.*
Can specific environmental messages and environmental goals be derived from the **brand message** (of the packaged good)?	*No.*
Have relevant environmental goals been selected for this packaging design **project**?	*Yes. The sachet is opened by seperating (tearing off) the upper part of the pouch. Littering of this tear-off part was recognized as a relevant problem. In addition, resource use was identified as a problem for this "disposable packaging".* • *Resource protection: Measured by amount of material (weight)* • *Avoidance of littering: Measured by share of packaging with high likelihood of littering*
Has the type and order of priority of the environmental goals been established?	1. *Avoidance of littering* 2. *Resource protection*

Step 2: Developing the Eco Design strategy

Question	Documentation of Results

Have “suitable” Eco Design strategy elements been selected?	• *Selected Eco Design strategy elements:*
	  ○ *Responsible Use*
	  ○ *Optimised Resource Use*

Has design leeway for the project been established?	*Design leeway and requirements:* ○ *As far as possible cost-neutral, no fundamental changes of production processes allowed. No change of material, which involve major changes.*

Are all environmental goals measurable? (Have all environmental goals been made measurable?)	*Reference case for optimisation goals: Initial packaging as specified above*
	
	Optimisation targets:
	  ○ *Prevention of littering by re-designing the closure mechanism*
	  ○ *Reduction of weight*

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STRATEGY ELEMENTS

APPROACHES

- Re-use solutions
- Material reduction
- Use of recycled material
- Use of bio-based material

Design for OPTIMISED RESOURCE USE

Design for SUSTAINABLE SOURCING

APPROACHES

- Sourcing from responsible suppliers
- Bio-based material from sustainable production

selected strategy elements

APPROACHES

- Compatibility with existing recycling infrastructure

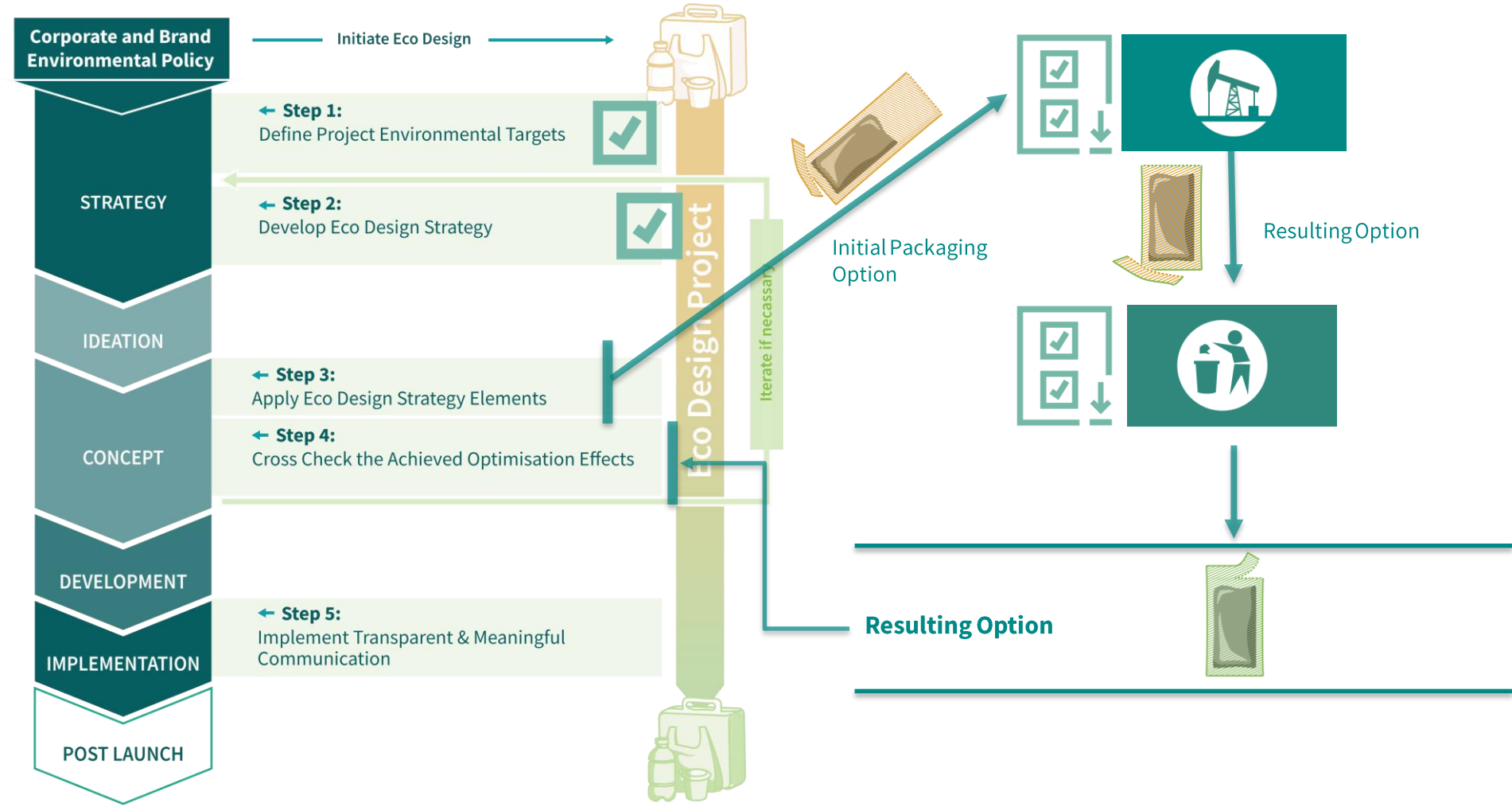
Design for RECYCLING

Design for ENVIRONMENTALLY SOUND USE

APPROACHES

- Avoidance of littering
- Easy portioning and complete emptying
- Safe re-closure
- Minimisation of chemical risks

Schritt 3: Anwendung der Eco Design Strategie



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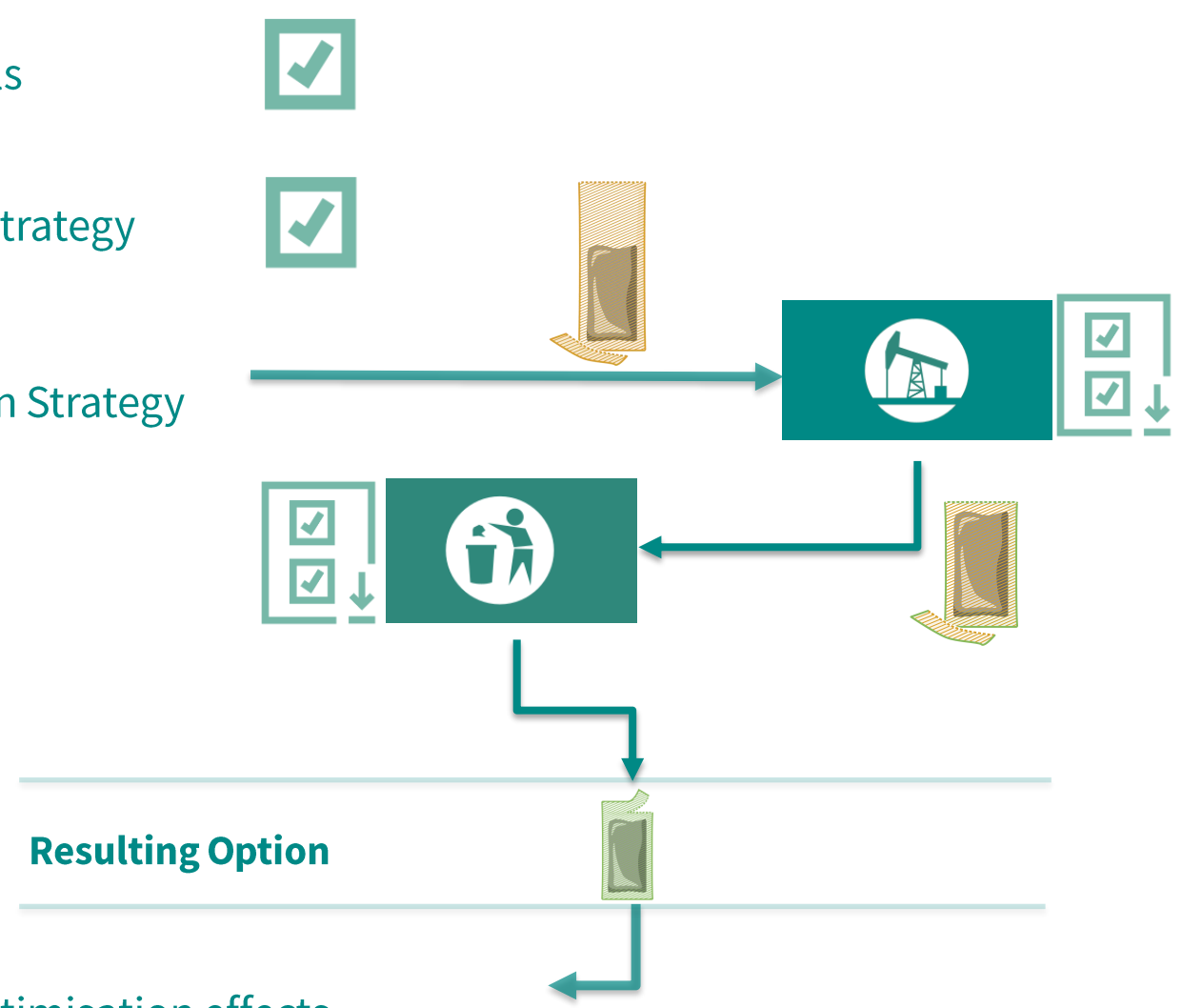
Step 3: Application of the Eco Design Strategy

Step 1:
Defining environmental goals

Step 2:
Developing the Eco Design Strategy

Step 3:
Application of the Eco Design Strategy



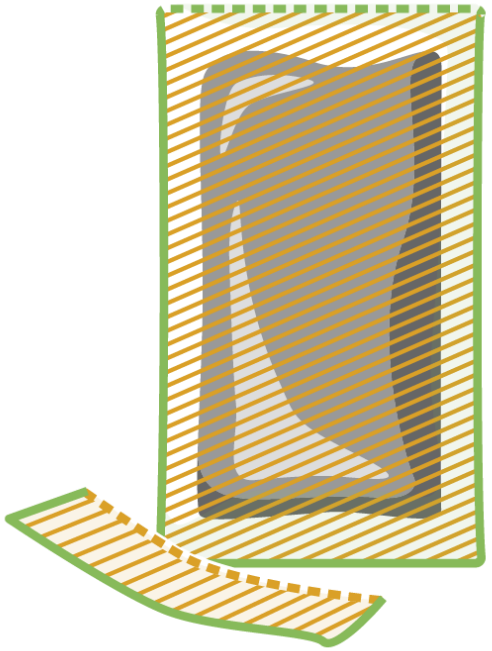
Step 4:
Cross check the achieved optimisation effects

Step 3: Application of the Eco Design Strategy

Question	Documentation of Results
Was the checklist for the relevant strategy element used?	*See checklists Design for Optimised Resource Use and Environmental Sound Use.*
What selection or modification of the packaging options results from this?	*The first strategy element (opt. Resource Use) results in a packaging option with optimised dimensions, while the second strategy element (Environmental Sound Use) results in an optimisation of the closure. This represents the resulting option of the application of the checklists.*
What difficulties became apparent?	*There have been no difficulties and no conflicts between the strategic elements*
Are there any conflicting goals that arise from optimising the other strategy elements reviewed?	

Step 3: Packaging Options

Portion Packaging / Sachet with reduced weight (by modifying dimensions) and improved opening mechanism



Step 4: Reviewing the optimisation effects achieved and solution of conflicting issues

Question	Documentation of Results
Have the 'optimised' packaging alternatives (results of step 3) been evaluated in terms of their environmental impacts?	***Yes**. See following documentation.*

	Initial packaging	***Resulting option***
Weight	*1,1 g*	*0,99 g*
Likelihood of littering	***High,** tear-off closure is often littered*	***Low,** the closure is only torn when opened and remains on the bag*

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Step 4: Reviewing the optimisation effects achieved and solution of conflicting issues

Question	Documentation of Results
Have the ‘optimised’ packaging alternatives (results of step 3) been evaluated in terms of their environmental impacts?	Yes.
Is there one or several “permissible” options?	Yes, there is one permissible option.
Does the resulting option meet the previously established optimisation goals?	Yes

Step 5: Using transparent and effective communication

Question	Documentation of Results
Have aspects been selected and processed that can/should be used as part of proactive communication with the end customer?	*It will be examined to what extent the aspect of resource protection can be used in end customer communication .*
Have aspects been selected and processed that are needed to respond to (any) critical queries?	***Yes** … (not relevant in this case)*