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| *Members of the Committee* | Republic of Korea |
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| *Explanatory notes outlining how this submission supports the bridging of positions on the issue at hand* | The non-paper submitted by the Republic of Korea is meant purely to aid Parties' understanding on the term Annex and guidelines, bridging the gap on the level of obligation to be posed regarding Article 5. |

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# Supporting Information Document on Article 5 Product Design by the Republic of Korea

## General Position

This is the document to contribute to the better understanding Article 5, Product Design. Generally, the Republic of Kore underscores the following positions regarding the development and implementation of provisions under Article 5 of the draft legally binding instrument:

- Resource efficiency should be incorporated as a guiding consideration in improving plastic product design, as also previously noted in the Asia-Pacific Group (APG) discussions.
- Reuse systems are a critical element in achieving circularity, as highlighted in both the APG and Heads of Delegation (HODs) meetings. Design elements should enable and facilitate reuse where appropriate. Additionally, developing guidance on design features and reuse systems can help address common challenges associated with product reuse, such as hygiene concerns, low return rates, and other related issues.
- Providing consumers with relevant information on circular use—including reuse, repair, recycling and disposal—is essential in linking product design with reuse and recycling systems. Without such information, the intended design outcomes may not be realized in practice.
- Considering the diversity of plastic products, terminology must be carefully developed. A flexible approach in wording is needed to reflect product-specific characteristics.
- The Annex outlining generic criteria of a sector or a product is not intended to be compulsory or impose rigid requirements on all product types. Instead, it aims to guide policymakers and industries by offering clear investment signals and incentives.

**Case: Circular Design Features for PET Bottles Used in Beverages**

This example provides an illustration of product design features that enhance circularity for PET bottles—a globally common and widely used plastic product.

- The non-paper submitted by the Republic of Korea is meant purely to aid Parties' understanding and is not being put forward as a mandatory annex or official guideline. Adoption of an annex and/or guidelines is expected to take place at the COP, as suggested in the UK-Chile proposal or the chair's text.
- The example provided does not suggest that all listed criteria must be fulfilled. It is acknowledged that meeting every criterion is nearly impossible, and some may even conflict depending on the context—for instance, reducing material weight might be incompatible with improving durability. The relevance and applicability of each criterion will depend on national circumstances and the specific products covered.
- The goal is to help clarify a phased approach, beginning with broad criteria based on sectors (e.g., plastic packaging) in an annex, and progressing overtime toward more voluntary technical guidelines focused on specific products or applications (e.g., PET bottles).

1. **Examples of general criteria for packaging products (with a sectoral approach)**

Process: An annex may be developed through scientific work under the COP.

| Category | Criteria |
|---|---|
| Resource efficiency | - Reduce material weight without compromising product performance<br>- Minimize excessive packaging<br>- Encourage use of recycled content or alternative materials |
| Product Lifetime Extension | - Enhance durability and reusability<br>- Facilitate easy cleaning through design<br>- Design for better stacking and efficient logistics |
| Material Composition | - Promote mono-materials; reduce multi-layer composites<br>- Avoid materials that hinder recyclability |
| Ease of Disassembly and Sorting | - Enhance use of plastics with differing densities for components to improve sortability<br>- Aim for easier disassembly by consumers<br>- Minimize, as appropriate, use of adhesives or use water-soluble adhesives |

## 2. Example of technical guidelines for PET bottles (Product or applicational based approach) used in beverages

Further elaboration of technical guidelines may be developed under the broader category of food packaging, with a specific focus on possible items, such as PET bottles.

These guidelines take into account product-specific features—such as labels, caps and attachments, and the primarily used material composition—and provide more detailed considerations than those envisaged for inclusion in any annex.

The example presented is intended to illustrate potential approaches for enhancing recyclability and would require further scientific and technical work under the authority of the Conference of the Parties.

| Component | Designs Facilitating Recycling | Designs Hindering Recycling |
|---|---|---|
| **Main body** | - Transparent mono-material PET | - PET mixed with PET-G<br>- Coloured PET for water and beverage containers<br>- Use of composite materials |
| **Bottle Label** | - No bottle label<br>- Bottle label made of synthetic resin (density <1), meeting all of the below requirements:<br>● Easily removable by consumer<br>● Use of alkali-soluble adhesives<br>● Minimal adhesive surface area<br>- Same-material non-adhesive label using alkali-soluble ink | - Bottle label made of resin with density >1 and not easily removable<br>- Use of non-alkali-soluble adhesive<br>- Direct printing on bottle body (excluding expiry and or manufacturing dates)<br>- Use of PVC, non-resin, or metal-embedded materials |
| **Cap & attachments** | - Components made of low-density synthetic resin or colourless PET<br>- Recommended for the handles also made of colourless PET | - Components made of high-density resin other than colourless PET<br>- Use of PVC or non-synthetic materials |

## 3. Examples for improving reuse systems

Reusable product designs are often hindered by the absence of well-established reuse systems. Common concerns—such as hygiene issues, limited user participation, and low return rates—largely stem from this gap. A provision focused on product design, particularly emphasizing reusability and supporting reuse systems, could also offer valuable guidance to policymakers and industries on key factors to consider when developing or scaling reuse systems at the regional or national level.

Possible considerations include the following (e.g. reusable beverage containers):

| **Category** | **Consideration** | **Details** |
|---|---|---|
| **Safety** | Hygienic washing | Cleaning, disinfection, and inspection of returned containers to prevent contamination |
| | Sanitary storage | Storing cleaned containers in clean areas, as appropriate, contamination-free zones |
| | Disinfection standard | Ensuring disinfection after cleaning |
| | Hygiene training | Providing periodical hygiene and safety training for workers |
| **Product Features** | Durability | Enhancing the durability of product, to be used multiple times |
| | Washability | Allowing simple cleaning process, such as designed to be dishwasher safe or to be fit for disassembly for cleaning |
| | Ease of collections | Enhancing designing of the shape, easier to stack and store, especially for transportation |
| | Material recyclability | Promoting use of mono-materials and proper recycling plans for reusable items after disposal |
| | Reuse tracking | Recording of usage period or frequency per container, and return rates, as possible |
| | Disposal management | Setting domestic criteria or standards for proper disposal and recycling of containers |
| **System Design and Consumer Participation** | Providing information | Providing consumers information on how to participate in reuse systems, e.g. information on returning place |

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| | Consumer incentives | Providing consumer incentives on their behavior, e.g. Purchasing beverages in reusable cups, or participating in deposit systems |
| | Shared systems | Encouraging development of standardized packaging and shared infrastructure to ease the consumer experience and capture economies of scale |

## 4. Examples for improving the availability of relevant information

There are existing examples of symbols or certifications used to convey product design information. The way this provision is implemented may vary by country, as each nation should determine the most effective and appropriate means of communicating with consumers, based on their unique cultural, market, and national contexts.

- Recycling: Many countries provide information on recyclable materials to support proper collection and sorting processes.
- Reuse: Some reusable container or delivery systems include QR codes to help encourage and track product returns.
- Recycled Content: Indicating the amount of recycled content used in a product's manufacturing can guide consumers toward more informed decisions, while also motivating manufacturers.
- National Symbols: Introducing a nationwide symbol to remind consumers of their disposal responsibilities could be an effective way to boost public awareness.

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| Example of providing information on Recyclable material | Example of providing information on reuse: QR code on reusable containers | Examples of providing information on recycled contents | UK symbol 'tidyman': a reminder to be responsible of disposal |