

Upcoming Regulations and Sustainable Packaging Materials

Taavi Tikk
R&D Manager



Estiko Group

PRODUCTION

- 170+ employees
- ~25-30% of industrial packaging
- ~70-75% export

REAL ESTATE

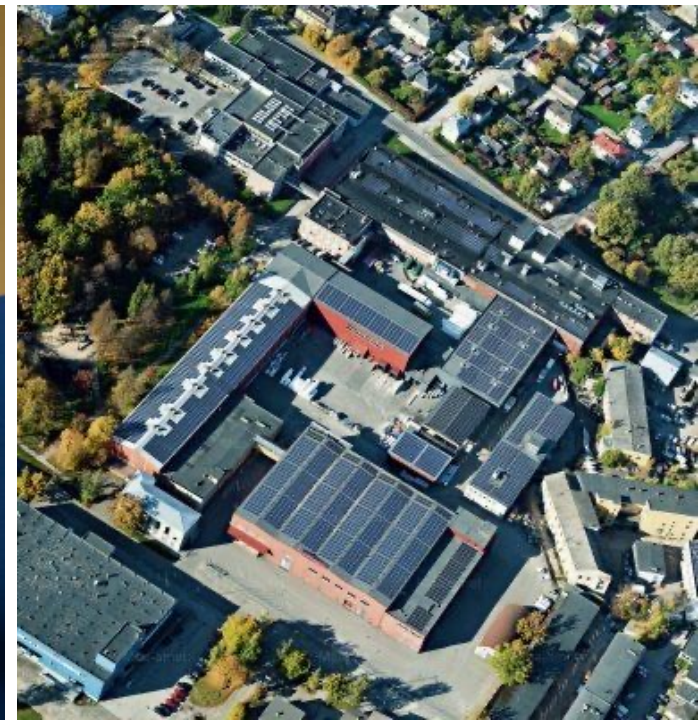
- 20+ properties

HORECA

- 30% market share in Tartu
- 180+ employees

RENEWABLE ENERGY

- 100 MW planned
- Biggest solar park in the Baltics



Technology

- 8600 m² production premises
- 9 film production lines + R&D pilot line
- 6 flexo printing machines (up to 10 colours)
 - Different design effects
- 3 lamination lines
 - Solvent-based and Solvent-less
- Laser perforation
- Vacuum bag and stand-up pouch line



“Winter is coming!” ...

– A new REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

...on packaging and packaging waste

*amending Regulation (EU) 2019/1020 and Directive (EU) 2019/904

*repealing Directive 94/62/EC

EU based packaging impact assessment

- **Three main problems:**
- **Growing packaging waste generation:** New consumption habits (e.g. on-the-go consumption, increased online sales and home deliveries).
- **Barriers to packaging recycling and re-use:** Increased use of packaging design features that prevent recycling, increased cross-contamination of compostable recycling streams, unclear labelling of packaging for sorting. As a result, the priority of re-use and recycling over recovery and landfill is not yet fully implemented.
- **Low recycling quality in plastic packaging and use of secondary raw materials:** This limits the EU's ability to reduce the use of virgin materials in new packaging. Shortcomings in the current regulatory framework hamper the profitability of recycling activities and weigh on the investment in technology and supply logistics needed to ensure that packaging is collected, sorted and recycled at a high quality level.

Aim of the proposal

- Reduce the generation of packaging waste
- Promote a circular economy for packaging in a cost-efficient way
- Promote the uptake of recycled content in packaging
- **The proposed measures are intended to provide the regulatory certainty necessary to encourage large-scale investments into sustainable packaging solutions**

“Fun Fact”

- 40% of plastics and 50% of paper used in the EU is destined for packaging and accounts for 36% of municipal solid waste
- Plastic packaging is the most carbon-intensive material and, in terms of fossil fuel use, recycling of plastic waste is approximately five-times better than incineration with energy recovery.
 - The packaging should be designed, produced and put on the market in a way which allows them to be reused or recycled into high quality products.

Implementation

- A **step-by-step approach** in strengthening the requirements is considered to best uphold the principle of proportionality. The proposal therefore includes a **gradual increase** in ambition and requirements, such as the sustainability requirement on recyclable packaging.
- **Implementation with a start-up period is from 2023 to 2027**

Topics

- Overall packaging aims for 2030 and 2035
- Financial contributions – eco-modulation
- Recycled content input 2030 and 2040
- Waste reduction per capita
- Weight and volume reduction (downgauging)
- Labelling of packaging
- Recycling targets 2025 and 2030
- Reuse of packaging
- Documentation

Overall packaging aims

- As of 1st of January **2030**, packaging will have to **comply with the design for recycling criteria = be recyclable**
- As of 1st of January **2035** the requirements will be **further adjusted** to ensure that recyclable packaging is also **sufficiently and effectively collected, sorted and recycled** ('recycled at scale').

Recyclable?

- **Packaging shall be considered recyclable when it complies with the following:**
- it is designed for recycling;
- it is effectively and efficiently separately collected
- it is sorted into defined waste streams without affecting the recyclability of other waste streams;
- it can be recycled so that the resulting secondary raw materials are of sufficient quality to substitute the primary raw materials;
- it can be recycled at scale.

Finally, specific rules are set for **innovative packaging for which the recyclability requirements shall only be required to be documented 5 years from its first placing on the market.*

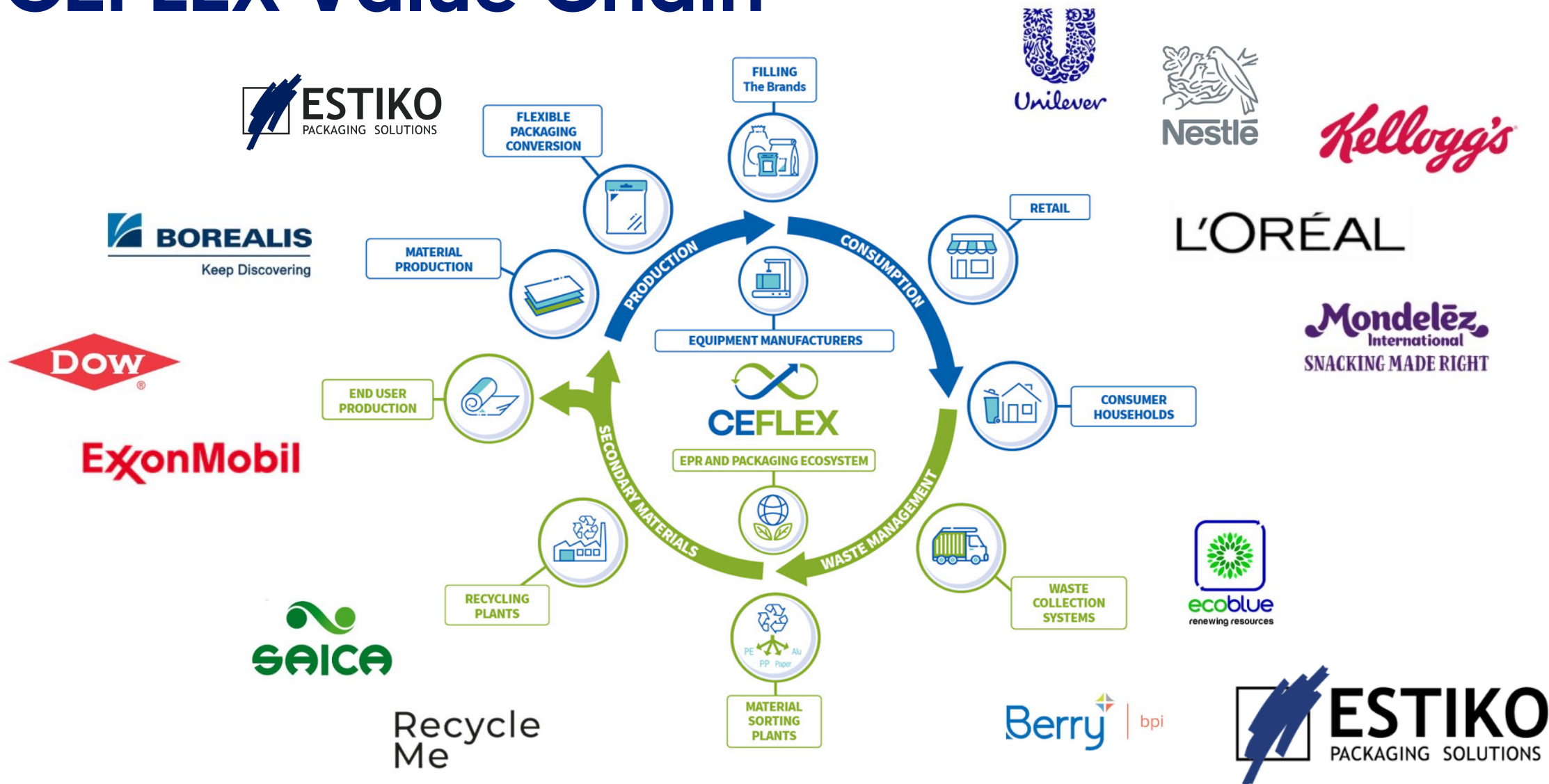
Guidelines to a Perfect Package



- No official sustainability guidelines yet for flexible packaging design
- CEFLEX as one of the pioneers:
 - A collaborative initiative representing the entire value chain of flexible pack
 - 190+ member companies (stake holders)
 - Main aim: Make all flexible packaging in Europe circular by 2025
 - Collection of all flexible packaging
 - 80% recycled material channelled into valuable new markets
 - <https://guidelines.ceflex.eu/resources/>



CEFLEX Value Chain



Financial contributions/eco-modulation

- **The financial contributions** to be paid by producers to comply with their extended producer responsibility obligations **shall be modulated based on the recyclability performance grades under the design for recycling criteria, which is based on:**
 - **packaging recycling performance grade**
 - **the percentage of recycled content**
 - **will be updated to include recyclability at scale thresholds to be applied as of 2035**

Recycled content input

From 1 January 2030, the plastic part in packaging shall contain the following minimum percentage of recycled content recovered from post-consumer plastic waste, per unit of packaging:

- 30 % for contact sensitive packaging made from PET
- **10 % for contact sensitive packaging made from plastic materials other than PET, except single use plastic beverage bottles**
- 30 % for single use plastic beverage bottles
- **35 % for other packaging (e.g. industrial flexible packaging)**

From 1 January 2040:

- **50 % for contact sensitive plastic packaging, except single use plastic beverage bottles**
- 65 % for single use plastic beverage bottles
- **65 % for other packaging (e.g. industrial flexible packaging)**

Recyclate types

- **PIR – Post Industrial Recyclate (mechanical)**
 - Converters' own waste which will be reused
 - Is not widely considered as recycled content
 - In our case suitable for industrial and food packaging
- **PCR – Post Consumer Recyclate (mechanical)**
 - **Industrial** – Low fluctuation of properties. Normally very good quality.
 - **Industrial/household mix** – Household waste lowers the quality.
 - **Household** – Our experience shows that it's not suitable for the production of thin films of high quality.
- **PCR – Chemically recycled**
 - Is used in virgin plastics production
 - Up to “medical grade” materials
 - Available by the mass-balance based concept

Waste reduction per capita

- Each Member State needs to progressively **reduce the packaging waste generated per capita** as compared to the packaging waste generated per capita in 2018, by:
 - **5 % by 2030**
 - **10 % by 2035**
 - **15 % by 2040**

Weight and volume reduction (Downgauging)

- Packaging should be designed so as to minimize its volume and weight while maintaining its ability to perform the packaging functions.
- Suppliers of packaging or packaging material needs to provide the manufacturer with all the information and documentation necessary for manufacturer to demonstrate the conformity of the packaging in connection to the downgauging.
- Producers that supply products to final distributors or end users in grouped, transport or e-commerce packaging must ensure that the ratio of empty space in the packaging in relation to the packaged product(s) is maximum 40 %.

Labelling of packaging

- Commission shall be empowered to establish **harmonised labelling requirements and formats for packaging** and waste receptacles as well as for **identifying the material composition of packaging by means of digital marking technologies**.
- **Labelling of recycled content in packaging should not be mandatory** as this information is not critical to ensure the proper end-of-life treatment of packaging.
 - Can be added for marketing purposes.
 - Labels will be harmonized over all member states

Digital marking

- Digital marking technologies enable to collect, sort and recycle more accurately and with a higher yield.
- Two most common techniques: HolyGrail 2.0 vöi Digimarc

Digimarc Barcode



Scan me, I'm with
imperceptible
Digimarc[®] code



Recycling targets

- ***The recycling targets will remain the same as before:***
 - **By 31 December 2025, a minimum of 65 % by weight of all packaging waste generated;**
 - 50 % of plastic;
 - 25 % of wood;
 - 70 % of ferrous metals;
 - 50 % of aluminium;
 - 70 % of glass;
 - 75 % of paper and cardboard;
 - **By 31 December 2030, a minimum of 70 % by weight of all packaging waste generated;**
 - 55 % of plastic;
 - 30 % of wood;
 - 80 % of ferrous metals;
 - 60 % of aluminium;
 - 75 % of glass;
 - 85 % of paper and cardboard.

Extras- CO₂ footprint

- We are measuring our factory's **CO₂ footprint** annually (since 2020)
- We have a plan to reduce our emissions every year in all measured scopes
- We use more and more **renewable resource based materials**
- We have developed a **CO₂ calculator** which is applicable to all our products (“cradle to gate”)
- The final aim is to offer the possibility of “**CO₂ neutral**” products



RENEW

- Bio-based polymers = Biodegradable
- Bio-based polymers = Fully recyclable
- Bio-based polymers = Negative CO₂ footprint
- Different renewable content:
 - Sugarcane residues (Green PE)
 - Lignin from wood pulp (ISCC)
 - Old cooking oil (ISCC)
- ***Drop-in*** solution or ***mass-balance*** based

International Sustainability & Carbon Certification



- Offers solutions to address sustainability requirements for all feedstocks and markets
- Estiko is one of the few in Scandinavia certified by ISCC
- Learn more: <https://www.iscc-system.org/>



Over **28 000+**
certificates issued



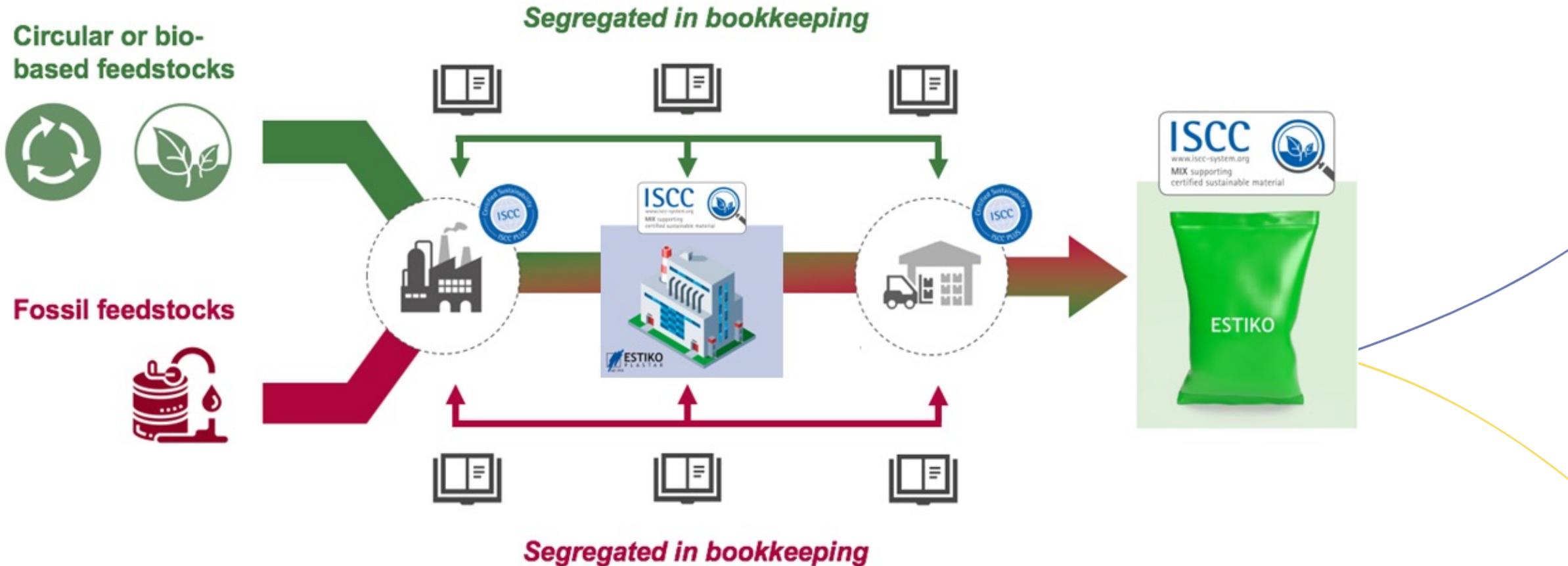
100+
countries



3900+ users worldwide



Explaining ISCC



Our offer: Four R's



REDUCE

Thickness reduction =
Downgauging
Optimized properties



REUSE

Usage of Post
Consumer
Recyclate
(PCR)



RECYCLE

Fully recyclable
packaging
structures



RENEW

Less fossil fuel
usage and lower
CO₂ footprint

Thank you!

Taavi Tikk
R&D Manager
Estiko-Plastar Ltd.
(+372) 7 308 340
plastar@estiko.ee

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