

# Sustainability Report

# Tupack Group



*Reporting period*  
01.01.2021 – 31.12.2021

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# General

## Environmental Policy

We take our responsibility to future generations seriously. This drives us to continually optimize our products to ensure they are as sustainable as possible. We achieve this by:

- Using recycled materials PCR and PIR for our tubes and closures.
- Reducing the amount of plastic used to produce our tubes and closures, e.g. thinner tube walls (eco design).
- Facilitating recycling by ensuring that the tubes and closure materials are standardized so that each part is only made out of one type of plastic, if possible.
- Using bio-based plastics.
- Focusing on the achievement of UN Sustainable Development Goals.



A key element of our corporate policy is our drive to produce our products in the most resource-efficient and environmentally friendly ways possible. This is why we are involved in global environmental initiatives such as CDP, EcoVadis and the Ellen MacArthur New Plastics Economy campaign.

When designing our production facilities at Tupack, we focus heavily on minimizing energy consumption and reducing our environmental impact without limiting what is technically possible.

- We capture cold air from the environment during the winter season for our cooling and ventilation systems. We also use evaporative cooling systems in the summer and harness waste heat when generating compressed air for cooling and heating purposes.
- Waste heat that is generated through catalytic afterburning to eliminate pollutants on the production lines is recovered to heat our drying ovens.



## Projects & Partners

General

Elimination

Reuse

Reusable

Recyclable

Compostable

PCR / CRR

Renewable content

### SUEZ CIRCPACK

Tupack has a collaboration together with "Suez Circpack" about recyclability of our products according to RecyClass guidelines. The investigations have shown that our products are recyclable up to class A.

### EcoVadis

Participation in EcoVadis. Platin award since 2022.

ecovadis



### CDP

Participaion in Carbon Disclosure Project. Scoring 2021: Climate B; Water A-

### OFI

Tupack collaborates with external company to get analysis results about the products to be able to provide statements on compliance to current norms.



### MORE-Recycling

Tupack and the company "More Recycling" is working together with other stakeholders to research and address barriers to plastic tube recycling.



To examine the recyclability of tubes, Tupack participates the CORE (Creating an Optimized Recovery Ecosystem) projects.

### HTP Cyclos

The HTP cyclos enable Tupack to give information to our customers about the recyclability of our products. The investigations have shown that our products are recyclable up to 100%.



### Swiss Climate

Tupack is working with "Swiss Climate" on a 100% carbon neutral certification.



### TerraStewardship

Through this organization, Tupack is able to get a sustainability assessment especially focused on North America and gives sight what our position is.

### Ellen MacArthur Foundation

Tupack has joined EMA foundation in 2019 and first report about progress uploaded. The ultimate goal is to reuse plastic and that it doesn't become waste.

### APR/PTI recyclability

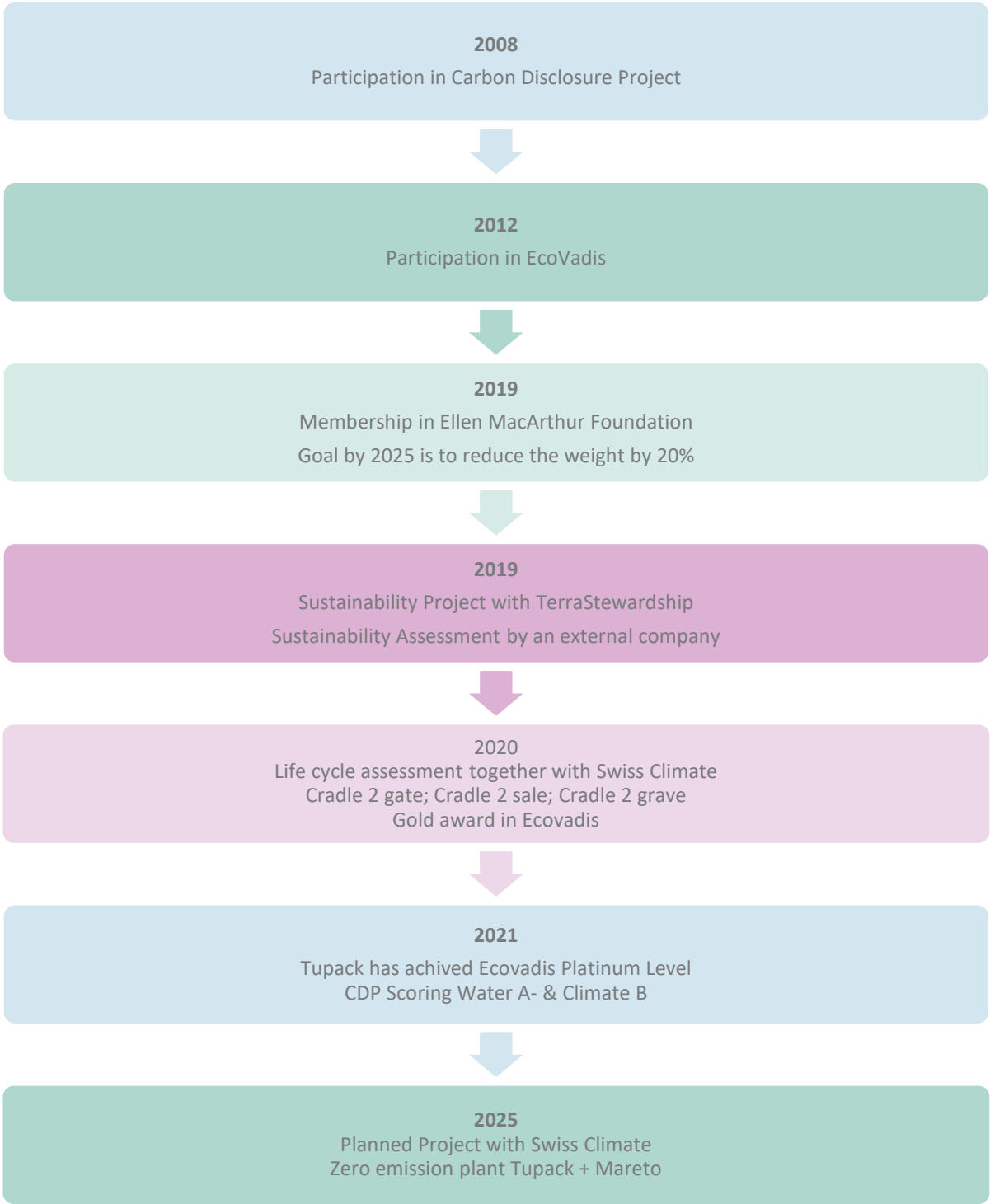
Apr represents more than 90% at PCR recycling in North America. This collaboration demonstrates that our products are also recyclable in NA and we can share the best practices on design for recyclability.

### agroVet

Tupack has achieved the ISCC+ certification by end of 2020. This allows Tupack to use and distribute chemical recycled materials and to create a sustainability declaration.

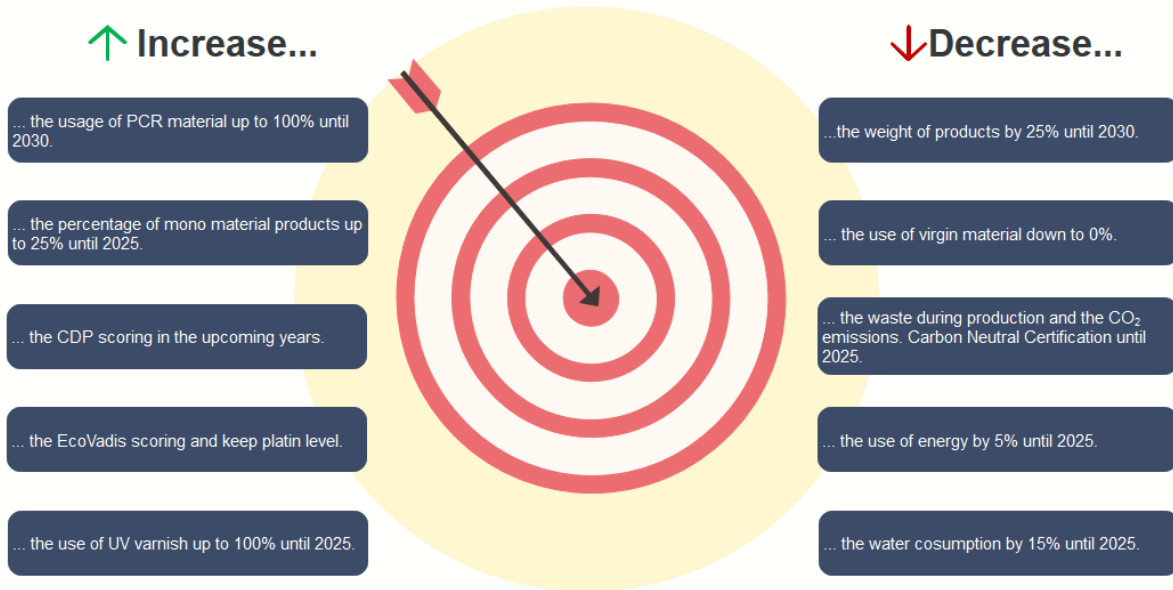
# Our Sustainability Journey

- General
- Elimination
- Reuse
- Reusable
- Recyclable
- Compostable
- PCR / CRR
- Renewable content



## Sustainability Vision

### Sustainability Vision/Targets



Responsible for achieving this targets are the heads of departments and the management. They meet twice a year to review the progress on those visions.

### Partnership for Circular Economy

Collaboration is integral achieving a more circular economy. To support our aspiration of a circular packaging industry with repeatable and positive effects on people, planet and product, a strong partnership is essential.



In an effort to support our work towards a circular economy, Tupack has joined New Plastics Economy Global Commitment, through the Ellen MacArthur Foundation. Working with this group will help us to connect with peer companies and other organizations to form a collective approach to work towards circular economy.

While Tupack has a specific interest in a circular system for plastics within the packaging industry, we are interested to learn about and support broader circular initiatives. We look forward to working with these organizations, and others, to tackle sustainability challenges, innovate our products to be designed for circularity and advocate for changes to plastics manufacturing and recycling.

Aligned with the Ellen Mac Arthur New Plastics Economy Global Commitment for 2025, Tupack is actively working to:

- Elimination of problematic or unnecessary plastic packaging
- Sustainable sourcing
- Climate protection
- Moving from single-use to reuse packaging
- 100% reusable, recyclable or compostable by design
- Reuse, recycling or composting in practice
- Decoupling from the consumption of finite resources
- Transparency



Tupack has been using recycled materials since 2008. Furthermore, we have been working on a sustainable product solution across all our type of articles.

All our products are already up to 100% recyclable. We design and produce products having always our people and our planet in mind.

## Innovations

*“When you stop trying to be better, you’ve stopped being good.” ~ Philip Rosenthal*

This quotation resonates with us because we have been working with customers and suppliers for years to continually develop and improve our existing products in terms of quality, safety and sustainability.

**New products** and projects currently under development, in final finishing phase or completed.

Completed projects are for example that Tupack is certified according to ISCC+ since end of 2020, the validation of chemical recycled products, 100% recyclable products, mono materials PE & PP based (Eco design), NIR masterbatches together with our color house, biobased materials, biodegradable plastics used to produce the tubes and closures also in combination with PCR, Ø50mm 30mm and 25mm diameter tube with pump, light-weight flip top caps, tamper-evident label between the tube and the closures, laser techniques used to produce special effects on closures, flip-top closures containing up to 100% PCR, flip-top closures 100% out of HDPE to ensure mono material recycling; M-Stick Line in PP and recycled resin, the evaluation of the use of the material ocean bound plastic as well the material social plastic.

Running projects are the implementation of new machinery for producing plastic- and paper laminate tubes which are linked to a ultra-light headless tube.

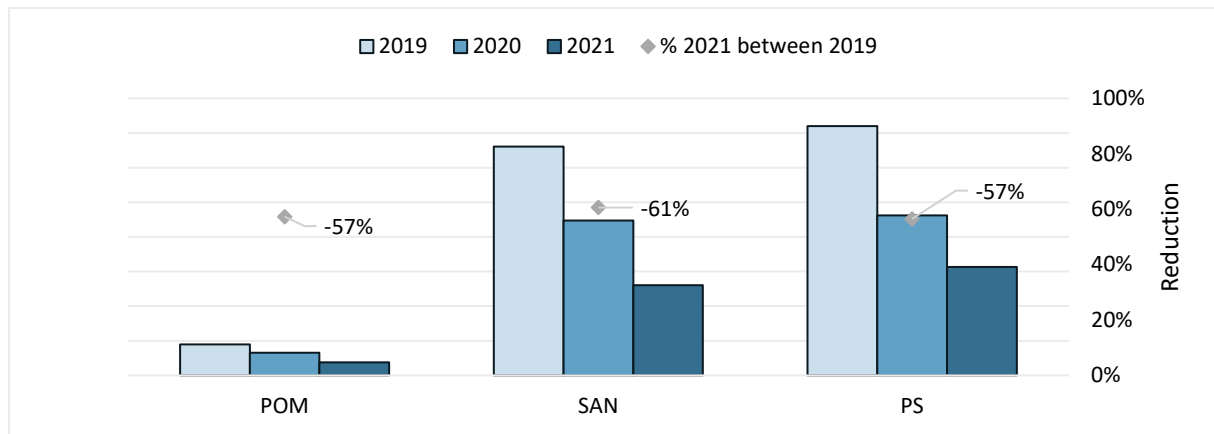




## Elimination of problematic materials

### POM, SAN, PS

In TUPACK several reduction, elimination and replacement actions take place. Since 2016 we are continuously working on new technologies to avoid the use of POM, SAN and PS materials which are currently not being recycled. In the last two years more than six new molds for the use of PP were manufactured. An overview below demonstrates the constantly decrease of these materials, which are currently not being recycled:



Our target for 2025 is to eliminate the use materials POM, SAN and PS completely. The currently trend of using these materials shows us that we could avoid the use of these materials even before 2025.

### EvOH

One of our further key topics regarding elimination of problematic materials is to reduce the use of EvOH. Tupack set several actions and high investments in 2019 regarding reduction of EvOH. On the one hand, we performed some evaluations and on the other hand we updated our machinery to be ready to process EvOH wall thickness up to 30% thinner. In the next coming years – at latest for 2025 – our target is to reduce the use of EvOH below than 1% in relation to our total material use.

## Elimination Actions – Weight Reduction

Tupack started several projects regarding sustainability, health & safety and environment in the past. One of our biggest project is the goal to use less plastic materials. There is a big potential to save plastic material on the project “weight reduction”. On the one hand we reduced the whole sleeve body of the tube as well the head style, on the other hand the design of the caps is completely renewed. E.g. in 2020, nine new cap moulds and nine head moulds were manufactured to be safe for a lightweight production for the future. Furthermore, there is a running project of a complete headless tube, which allows us to perform an even higher weight reduction rate in the coming years. The overall weight reduction could be 4.500 tons per year. This value means 200 trucks of material less per year, which is linked to a CO<sub>2</sub> reduction of 300 tons per year.



~4.500 t/a



~200 trucks/a  
material



~300 t CO<sub>2</sub>

## Reuse

More than 30% of our packaging for our products is reused. The packaging for our products, like Ecotray, blue transport box as well green transport box is reused more than ten times.

The use of the most suitable packaging for transport is chosen by the CO<sub>2</sub> emission balance sheet. Tupack has several collaborations together with our customer to handle the logistic behind the reuse of the packaging component.



*Picture of Ecotray – a component for transport – designed for reuse*

Aligned with the Ellen MacArthur New Plastics Economy Global Commitment for 2025, Tupack is actively working on the topic 'reuse'.



## Reusable

Tupack designed the packaging for transportation of our products reusable. In 2020 we established new partnerships with two of our long-term customers to organize the return of one of our reusable packaging components. Our reusable packaging components are designed for a reusability rate of more than ten times.

The reusability of our products itself behave to our customer and their filling components within our tubes. Some of our customer performed a lot research to reach a reusable component.

Aligned with the Ellen MacArthur New Plastics Economy Global Commitment for 2025, Tupack is actively working on the topic 'Reusable'.



# Recyclable

## Certified Recyclability

Tupack has collaborated with independent companies to check the recyclability of our products based on state-of-the-art recycling technologies and on national and international legislation. We are able to provide to our customers and suppliers certifications about the recyclability status of our products and through these results, we can adapt the design of those (eco-design approach / mono material tube). This information is very important to achieve our goal for 100% recyclable products.



Our products are certified as recyclable in Europe as well in the US. In 2021 we reached the recognition letter of APR that our innovation PE tube with PE closure are recyclable in the US market: “APR, the Association of Plastic Recyclers, is pleased to recognize TUPACK Verpackungen GmbH’s decorated HDPE blend tube, without and with less than 5% ethylene vinyl alcohol co-extruded barrier layer and maleated polyolefin tie layer, and low-melt flow index HDPE shoulder and HDPE closure as meeting or exceeding the most strict APR HDPE Critical Guidance criteria, HDPE-CG-02. The HDPE blend is HDPE with a minority of LLDPE. The tubes recognized are equal to and over 40 mm in diameter. This APR recognition is based on the technical recyclability of the packaging tube innovation with HDPE bottles.”



**The Association of  
Plastic Recyclers**

## Chemical recycling

Tupack performs several investigations to create 100% recyclable products. One of them is the mentioned post-consumer recycled topic, another big subject is the chemical recycling. Tupack is one of the first manufactures, which is dealing with chemical recycled material.



Tupack is certified according to ISCC+ since 2020. Furthermore, Tupack is able to create & provide a sustainability declaration for chemical recycled materials. The most positive impact of chemical recycled material is that this resin has no limitations regarding smell, aesthetic issue and regulatory declarations. Basically, it is a virgin material based on a certified circular feed stock. Achieving participation in recycling activities in Austria from Tupack.

A short overview of the procedure behind the chemical recycling is displayed as follow: Collecting, Pre-sorting and grinding; Decomposing the Polymer blends to Monomer structures; back to polymerization; manufacturing of products.

Comparison between chemical recycled material and mechanical recycled material (PCR):

Chemical recycling	Mechanical recycling
Virgin material based on certified circular feed stock	Material based on physical sorted and recycled sources (smell)
Colour: transparent material	Colour: greyish, blueish, greenish material
No inclusions	Inclusions due to PCR (black specs, gels) → Influence on printing, optical aesthetics
All certificates for direct food contact	Non objection letter only (FDA)
Stress crack test 15days OK	Significant lower stress crack resistance

## Compostable

In Tupack we started several thoughts about compostable products in the past. Depending on our customer's needs, we are currently not producing compostable products. This is linked to the currently established recycling infrastructure in Europe. If a compostable product gets into the standard recycling stream for polyolefin products, there is a high risk that the manufactured lot could be contaminated with compostable particles which is unintentionally. Only a very small range of our products is compostable designed - for example, a temper evident sleeve for our flip top caps.

Based on the current given needs of our customer, we do not force the development of compostable products.



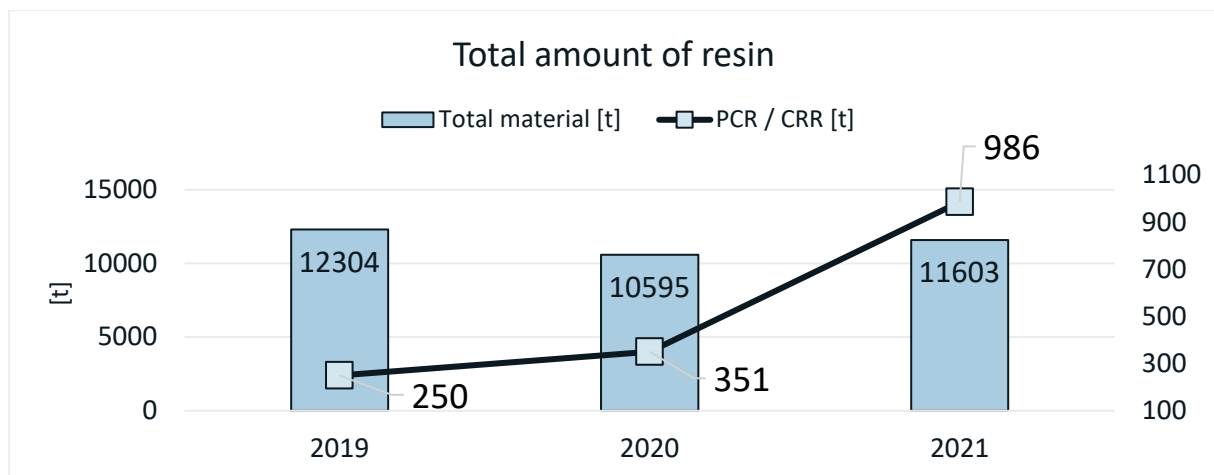
## Post-Consumer and chemical recycled resins

The International Standards Organization defines post-consumer material as “waste material generated by end-users of the product, which can no longer be used for its intended purpose.” Post-consumer recycled (PCR) resin is the recycled product of this waste that can no longer be used and would otherwise end up at a landfill. Tupack has been using convenient PCR sources since 2008 and participates in the Ellen MacArthur Foundation, EcoVadis and CDP as well.

In our Sustainability presentation, we put a spotlight on our progress with sustainable materials and our use of PCR within our products. During the last 10 years, we could expand our PCR sources and qualify new material mixes. Furthermore, Tupack is certified according to ISCC+ since the end of 2020. Based on this certification, we are ready to provide material and products out of renewable content. We are able to create a sustainability declaration for all of our products, which were manufactured out of renewable content materials. Renewable sources can be chemical recycled resins or bio-based resins. The use of such materials is based on mass balance approach. Our focus is placed on a mix of virgin HDPE with rHDPE and virgin PP with rPP. Therefore, Tupack has continued to replace virgin resin by additional use of post consumer recycled or chemical recycled materials. We will continue our research and will worked very close with our material suppliers to ensure a sustainable network.



Although, thousands of tons of mechanical recycled plastics would be available on the market, these quantities are not available for us, as those do not meet the legislative and customer requirements especially for direct bulk contact. Based on that there is a visible trend to use more and more chemical recycled resins as these materials have no limitations in terms of direct bulk contact. Tupack is searching for recycling partners who can offer high quality PCR material in the desired quantities. Our goal is to produce the product out of 100% recycled resins.

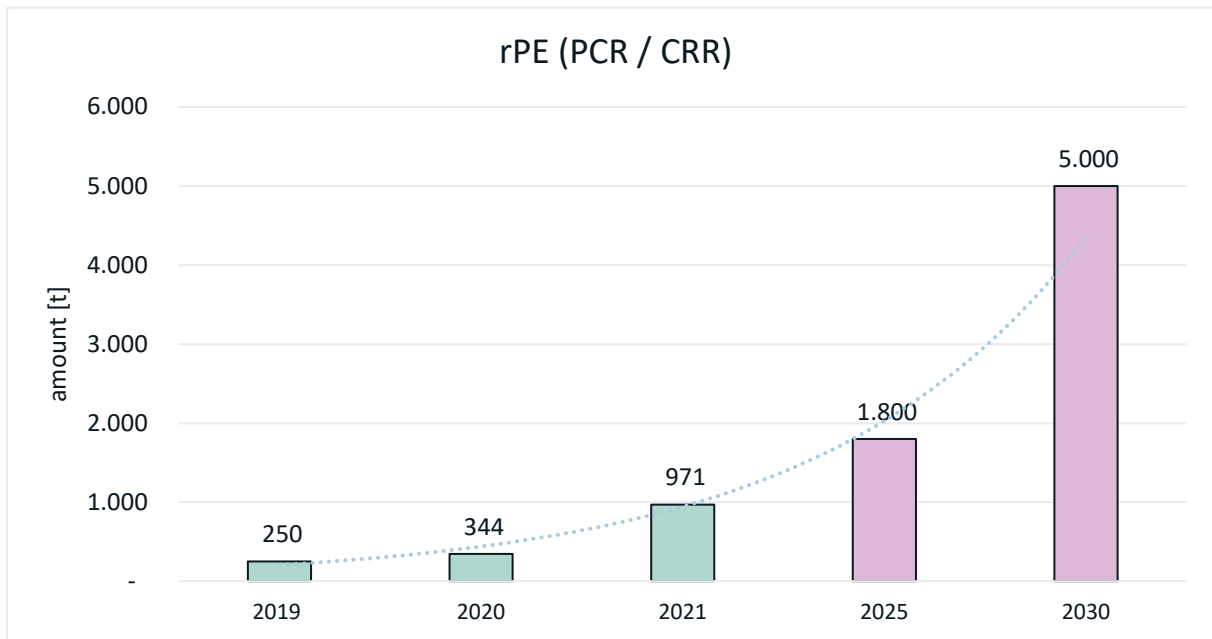


The target from Tupack for 2030 is to use 100% recycled materials.



Used material

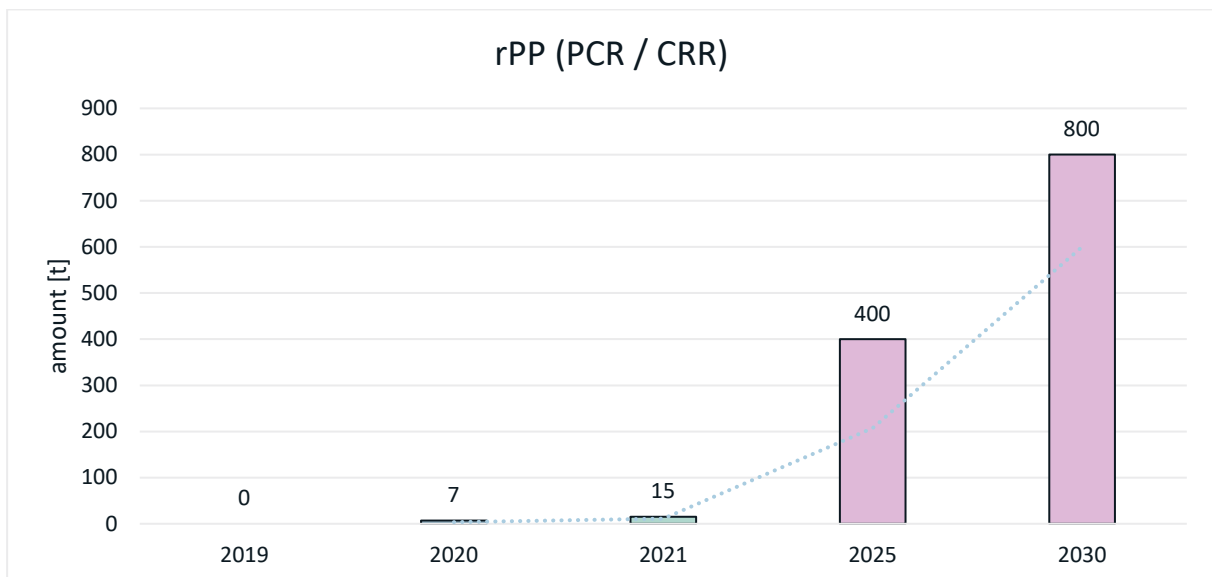
Target



Total amount of **rPE** resin in 2020 → **344 t**  $\cong$  5% of used PE resin  
 Total amount of **rPE** resin in 2021 → **971 t**  $\cong$  13% of used PE resin

Used material

Target



Total amount of **rPP** resin in 2020 → **7 t**  $\cong$  0,6% of used PP resin  
 Total amount of **rPP** resin in 2021 → **15t**  $\cong$  1,2% of used PP resin

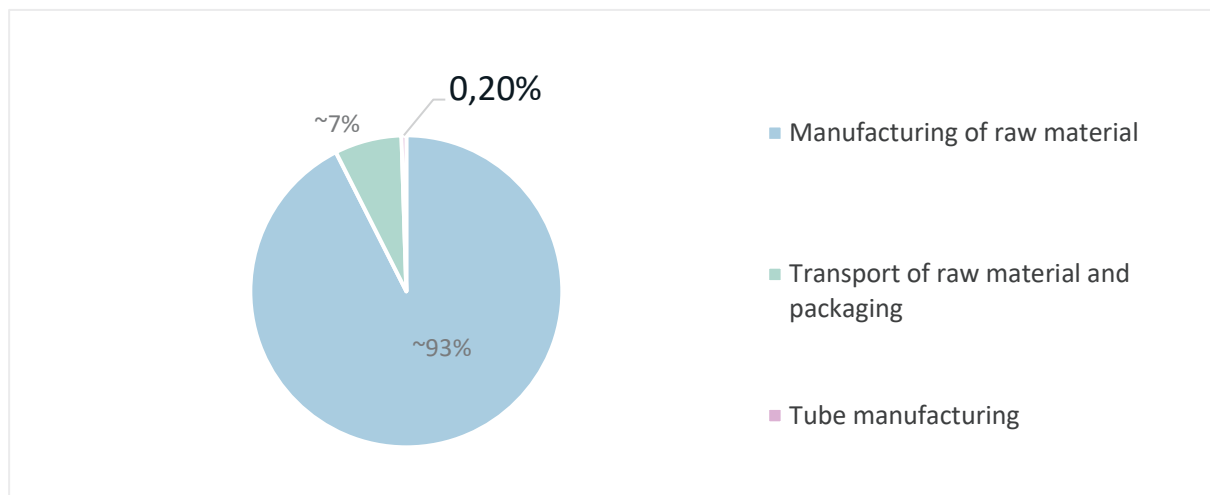
## Renewable content

Tupack performed first trials with bio-based materials in 2008. In 2019, we started to use regular bio based materials for our tube products. Our goal until 2025 is to increase the use of bio based materials by 20%.

Tupack is certified according to ISCC+ since the end of 2020. Based on this certification, we are ready to provide material and products out of renewable content. Furthermore, we are able to create a sustainability declaration for all of our products, which were manufactured out of renewable content materials.

Tupack is ready to provide CO<sub>2</sub> life cycle analysis for cradle2gate, cradle2sale as well for cradle2grave. This is based on the greenhouse gas emission rules. The emissions linked to the manufacturing process of Tupack is only at 0,2%. This very low value is linked to the use of electricity, coming from waterpower plants. For example, a product weight of 9g is emitting 14kg CO<sub>2</sub>/1000pcs.

Life cycle assessment – generated CO<sub>2</sub> of a particular tube:



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