**PREDICTIVE MODEL FOR THE DUTCH POST-CONSUMER PLASTIC PACKAGING RECYCLING SYSTEM**

**Introduction**

"What is the impact of different improvement options (design, collection, sorting, recycling) for the post-consumer plastic packaging recycling chain on the quantity and quality of the washed milled goods?"

**Design**

A predictive model for the Dutch post-consumer plastic packaging recycling system (PPRS) has been made. This model calculates the quantity and quality of the washed milled goods from the PPRS based on various parameters in this chain. The basic model is based on the recycling system as it was in 2014. This provided information on the KPI's of the PPRS.

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**Main outcomes**

The main outcomes of the basic model (2014) are:

- **Net chain yield:** 20.2% ± 0.4% (only plastic packaging materials, ending up in the main washed milled good product)
- The model provides insights in collection efficiencies, sorting efficiencies and chain efficiencies
- The model provides insights in the polymer composition of the washed milled goods
- The model provides insights in the origin of the polymer contaminants in the washed milled goods (packaging design or sorting)

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**Insights in the post-consumer plastic packaging recycling chain**

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**Table: Main material in the washed milled goods**

<table>
<thead>
<tr>
<th></th>
<th>SC*</th>
<th>RC*</th>
</tr>
</thead>
<tbody>
<tr>
<td>PET</td>
<td>99%</td>
<td>99%</td>
</tr>
<tr>
<td>PE</td>
<td>89%</td>
<td>91%</td>
</tr>
<tr>
<td>PP</td>
<td>93%</td>
<td>94%</td>
</tr>
<tr>
<td>Film (PE+PP)</td>
<td>96%</td>
<td>90%</td>
</tr>
<tr>
<td>Mix (PE+PP)</td>
<td>87%</td>
<td>94%</td>
</tr>
</tbody>
</table>

*SC: source separation, RC: recovery from MSW