

PLASTIC RECYCLING

DESCRIPTION:

Plastics are diverse and often product-specific, for a wide range of value chains. To recycle them requires a diverse mix of solutions, taking into account the environmental impact, existing alternatives, local and regional demands and ensuring that functional needs are met to its reuse. To the end, the regulation sets some challenges to boost its reuse and then, its valorization potential

Type of barrier: **THEMATIC**

Sectors involved: **SEVERAL ESPIRE SECTORS AND DOWNSTREAM VALUE CHAIN SECTORS**

Challenges

Plastic recycling still offers a huge potential of recovery, reused and valorisation. In overall the following issues should be considered;

- The quality of sorting, handling multi layers packaging and insufficient recycling technologies which upgrade the value of recyclates are regarded to represent main technological barriers. To overcome these barriers, more research and innovation is needed.
- High costs for collection, sorting and recycling of plastics. The recycling of plastics cannot be financially upheld by itself as for example the value of the recycled plastics are of lower value than the collection and recycling process itself.
- It is desirable to increase the commitment of the Member States at the local /regional level to address the challenges around waste collection and sorting. Member States might make use of economic instruments (avoiding market distortion) and other measures to provide incentives for the application of the waste hierarchy. All efforts should aim to manage the plastic waste according to the WFD.

In the particular case of existing plastic stocks which may contain substances of concern and legacy substances such as some heavy metals, plasticisers or flame-retardants, a broader analysis is encouraged with case by case approach and enlightening the second use of the recyclate. The European substances policy focuses on phasing out substances of very high concern (SVHCs) out, on the one hand by banning these substances from the market and on the other hand by processing waste streams containing these substances, in a controlled way, for example in chemical recycling removing those substances and in energy recovery . However, this processing releases the carbon in plastic waste as CO₂; and the production of new plastics also consumes energy and produces CO₂ emissions, even the overall life cycle balance is positive compared the non-recycled material.

On the other hand, Packaging Waste Directive is extremely relevant. It takes into account the relative properties of different packaging materials on the basis of life-cycle assessments, addressing in particular prevention, and design for circularity.

In this respect, it is necessary to support clear, implementable and effective requirements, including "reusable and recyclable plastic packaging in a cost-effective manner", and on excessive packaging. This initiative is promoted by the EP and strongly supported by the industry. Lastly, the industry is very keen on contributing to setting up the framework and implementation guidelines in this respect.

Potential solutions

-Further investments in regional/local recycling capacities and technologies, which are now very heterogeneously spread over Europe. Continuous R&I in new technology routes, waste management systems and methods (mechanical and chemical recycling, improved sorting techniques, improved analytical methods, improved collection (reverse logistics) ...) are required.

-Before making any changes on the legislation, the sources of insufficiencies/inefficiencies need to be identified. Drafted legislation could give the legal framework for the implementation of a better and more efficient collection system by defining mandatory collection targets, of specific waste streams and possibly incentivize it.

-To analyse and categorize the waste streams on case-by-case for specific large-scale applications of complex plastics (in particular when they will be used as a feedstock to produce new plastics).

-Legislation that would allow the collection and pre-treatment of homogenous waste streams. Without specific legislation, many waste streams end up as mixed waste where high-quality recycling costs are higher than the income from its recycled materials, which is the case of the plastic packaging.

-Launch of value chain platforms, including the recyclers, facilitated via the channels of sectorial associations to exchange information. E.g. EuCertPlast (<https://www.eucertplast.eu>) and New Plastics Economy Initiative of the Ellen McArthur Foundation to promote the QA-CER certification scheme set up by BQA.

List of related legislation and TCs and standardisation

