

Plastic sustainability : old methods – new trends

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In the age of global plastic waste crisis Science and Industry search for appropriate methods in reducing environmental impacts while increasing plastics sustainability. Tendencies work on biobased and biodegradable alternatives to commodity polymers and evolve towards durable and on-demand degradable plastics but do not stop there. They progressively orient towards intensification and cost (both energy and effort) reduction in synthesis, modification, and processing methods, with final implement in recycling.

With this respect, common mechanical and chemical treatments are found to provide more-or-less successful and case-dependent solutions but rise significant material properties, efficiency, and energy-related concerns. Some studies diverged in “reinventing the wheel” – proposing a combination of chemistry with mechanics – that might possibly merge quality and dissolve issues.

Here, a short time-line will be provided and some examples will be given in order to draw a possible path towards polymer sustainability implementing “old” methods in “new” trends.