



From Waste to Value-Added Products: Environmental Challenges, Potentialities, and Perspectives for a Circular Economy

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Message from the Guest Editors

The global commitment is clear if we look at the Sustainable Development Goals (SDG) as part of the UN Resolution “Agenda 2030”, a broad and interdependent set of goals aimed to achieving a more sustainable future. In particular, waste management is the focus of SDG 12, entitled “Responsible consumption and production”.

Recovery of added-value products from waste offers a wide range of opportunities. Just to list a few:

- Bioactive molecules from food waste, leading to pharmaceuticals, nutraceuticals and cosmetics.
- Base and precious metals from Waste Electrical and Electronic Equipment (WEEE), for a re-placement on the market.
- Fuel and energy from agro-industrial biomasses.
- Wastewater can be recycled for agricultural, industrial processes and other beneficial purpose reducing demand for potable water.
- Fermentation represents an environmentally clean technology for production and extraction of such bioactive compounds, providing high quality and high activity extracts, which can be incorporated in foods.
- Sustainable solar fuels production by photothermocatalytic CO₂





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