

## **Materials from renewable resources - biodegradable plastics and bioplastics**

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The unstoppable growth in plastics use has brought with it a growing environmental burden-from the perspective of resource use, emissions released during the production stage, and waste management. If we want to control and reduce these negative impacts on the environment it is essential that we move to the production and use of plastics with a higher level of sustainability. Green materials are the wave of the future. There is immense opportunity in developing new bio-based products, but the real challenge is to design sustainable bio-based products.

Following the sustainable development in the plastics industry, the lecture is taking into account issues of "internal integration" based on

- development and promotion of interdisciplinary knowledge and technologies that unite technical expertise and understanding while improving the quality of solutions and resulting in increased net revenue and new business opportunities in the field of biodegradable or bio-based plastics,
- promotion of ecologically sound land development protecting essential ecosystems using these plastics materials,
- general education and promotion of importance of social equity to overall community sustainability, where biodegradable plastics or bio-based plastics are the one of good examples.

Sustainable Development Matrix diagram originally developed by William McDonough and Michael Braungart is used to explain guiding principles in this context. Sustainability is a journey. While we are not ready to declare victory, biodegradable plastics are a good start along the road to sustainability in man-made packaging and other materials.