NewPack

New BioBased Film for Packaging

Development of New Competitive and Sustainable Bio-Based Plastics

About

NEWPACK aims for developing at least two novel **bioplastics** based on PHB-PLA blends **with improved sustainability performance**, obtained by introducing natural extracts with antioxidant/ antibacterial properties and nanoadditives from cellulose and chitin.

New **circular economy** value chain will be generated from agro-food waste that will be exploited in the production of PHB, while designing and validating the process up to pilot scale in an industrial setting.

The properties and production of **PLA-PHB** blends will be validated at pilot scale to meet the requirements of targeted final products.

Objectives

- Pilot production plant of PHB-PLA based bioplastic designed for foodstock properties and final product requirements
- Validation of the PHB-PLA blending process at pilot scale
- Manufacturing biodegradable films by extrusion and validating the suitability for food packaging
- Analyzing the technical and economical feasibility of the process
- Ensuring compliance of the market and regutory requirements including physical properties, antioxidant/ antimicrobial activity, food-contact compatibility and consequential environmental impact
- Preparing of future scale-up of the process to achieve a pre-industrial production
- Analyzing market barriers (cultural, behavioral, economic etc.) of bioplastics in food packaging and considering means to overcome these obstacles.

Consortium

1. UOULU - UNIVERSITY OF OULU (FI) - Project coordinator
2. UCSC - UNIVERSITA CATTOLICA DEL SACRO CUORE (IT)
3. CTIC-CITA (ES)
4. BBEPP - BIO BASE EUROPE PILOT PLANT VZW (BE)
5. TECNALIA - RESEARCH&INNOVATION (ES)
6. PROPLAST (IT)
7. TECNOPACKAGING (ES)
8. LTU - LULEA TEKNISKA UNIVERSITET (SE)
9. QUANTIS (CH)
10. TRITECC SRL (RO)
11. GRUPO RIBEREBRO (ES)
12. ARGAL ALIMENTACION SA (ES)
13. EXERGY LTD (GB)

BIO-BASED INDUSTRIES Public-Private Partnership

Bio-based Industries Consortium

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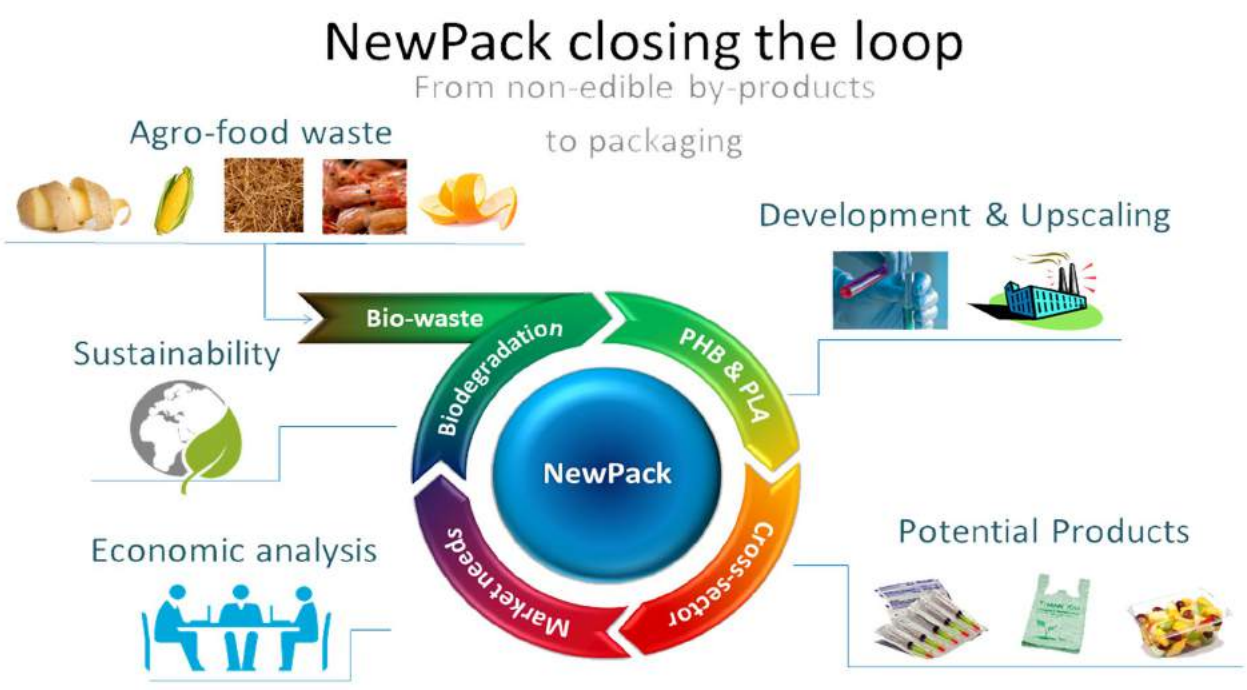
Concept

- NEWPACK project provides novel solutions for food packaging industry with improved properties and functionalities of PLA-PHB based bioplastic by incorporating nanocellulose, nanochitin, antioxidant and antimicrobial additives.

- The extended functionalities of PLA-PHB blends will be validated in real industrial environments. NEWPACK activities are based on experience and research results of partners in order to achieve advanced TRLs (5-6) for the developed technologies including PHB productions from potato peels and sweet corn residues, co-blending of PHB and PLA, nanocellulose extraction from wheat straw and encapsulation of natural antioxidants/antimicrobials followed by combining with PHB-PLA blends

- Technical and economical feasibility of the process will be assessed by demonstrating the biodegradability of solutions, ensuring compliance to the market and regulatory requirements, evaluating the life cycle of the products, preparing the process for preindustrial scale, identifying the perceptions of stakeholders and surveying the attitudes and expectations towards bioplastics.



For more information, please visit our website:

www.newpack-h2020.eu

CONTACT

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