

# Potential of development of biobased materials in Europe



Jean-Luc Wertz - ASPO 9 - 28 April 2011

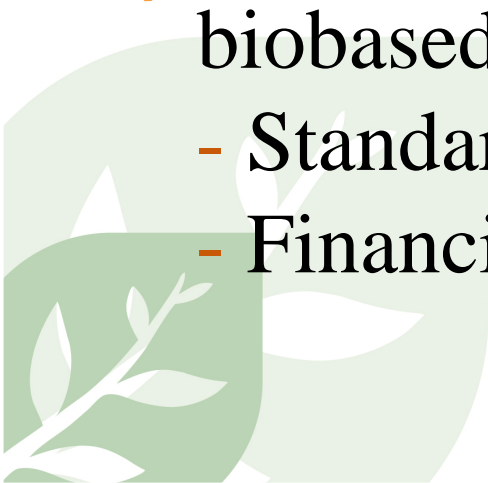
## Lead Market Initiative (2007):

- Key to a successful innovation strategy for Europe
- Through actions to lower barriers to bring new products on the market
- Six markets: E-health, sustainable construction, protective textiles, bio-based products, recycling, renewable energy



## LMI recommendations for biobased products (2009)

- Legislation promoting market development
- Product-specific legislation
- Legislation related to biomass
- Encourage green public procurement for biobased products
- Standards, labels and certification
- Financing research



# Future: Europe 2020 Strategy

## -Innovation Union flagship initiative:

Scheduled public/private innovation partnership  
“Building the bio-economy by 2020”

## - Resource-Efficient Europe flagship initiative



# Definitions

- Biomass: material of biological origin excluding material embedded in geologic formation and/or fossilized
- Biobased products: products derived partially or entirely from biomass

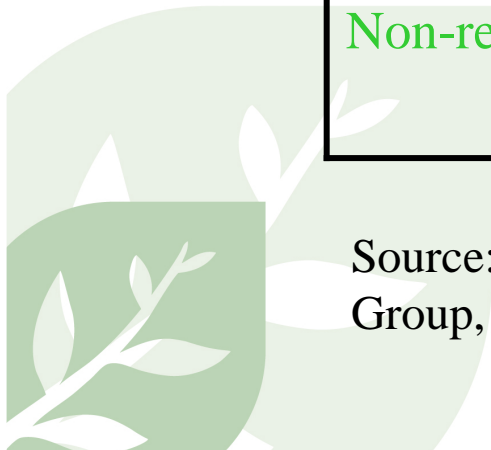


## Use of term “biopolymer” (based on a CEN standard)

Origin	Biodegradability	Example	Meaning of « Bio- »
Renewable	Biodegradable	PLA, starch	Biobased and biodegradable
Non-renewable	Biodegradable	PCL	Biodegradable
Renewable	Non-biodegradable	PE from sugar cane	Biobased
Non-renewable	Non-biodegradable	PEEK	Biocompatible

Source: « Taking Biobased from Promise to Market », Ad-hoc Advisory Group, LMI, 2009

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## Predicted market penetration of biobased chemicals in world chemical production

	Commodity	Specialty	Polymer
2005	1-2	1-2	~0
2025	8	~50	18

Source: « Taking Biobased from Promise to Market », Ad-hoc Advisory Group, LMI, 2009

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## Biobased plastics: current market situation and market forecast 2020

Application type	Examples	EU consumption 2008/2009 (t)	Without EU measures Consumption 2020 (t)	With EU measures Consumption 2020 (t)
Short-life Disposable	PLA, PHA, starch blends, cellulose	110 000	310 000	1 280 000
Durable	Engineering Polymers Modified PLA Polyolefines	150 000	459 000	1 270 000

Source: [www.errma.com](http://www.errma.com)

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[www.vaibiom.de](http://www.vaibiom.de)

## Biobased biodegradable polymers: Current market situation and market forecast 2020

Application area	Volume EU 2010 (t)	Biobased volume EU 2010 (t)	Volume EU 2020 (t)	Biobased volume EU 2020 with EU policy measures (t)
Waste bags + shopping bags	1 000 000	30 000	480 000	260 000
Tableware	220 000	3 000	220 000	33 000
Mulch for agriculture	147 000	2 000	147 000	40 000

Source: [www.errma.com](http://www.errma.com)

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## Biobased products: Current market situation and market forecast 2020

Product group	Volume EU 2010 (t)	Biobased volume EU 2010 (t)	Biobased volume EU 2020 with low legislation level (t)	Biobased volume EU 2020 with high legislation level (t)
Biolubricants	4 400 000	137 000 (3.1 % MS)	277 000	420 000 (6.3 % MS)
Biocomposites	2 400 000	315 000 (13 % MS)		830 000 (28 % MS)

Source: [www.errma.com](http://www.errma.com)