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Agenda



1. Sustainability
 - Explanation and meaning for artimelt
 - How to reach sustainability
2. Applications of sustainable hot melts
 - Biobased hot melt adhesives
 - Biodegradable hot melt adhesives
 - “recyclable” hot melt adhesives
 - Sustainable use of conventional hot melt adhesives
3. Regulations around sustainability and how we meet them
 - Life cycle assessment
 - Certifications and their limits

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Sustainability

Sustainability

Social

Environment

Economic

What is sustainability

- Combination of interests
- Material and immaterial needs
- Consider the future (use what “regrows”)

Importance in hot melt manufacturing @ artimelt

- Value employees, neighbors and people
- Partnerships and value creation with customers and suppliers
- Use resources wisely / take care of your emissions

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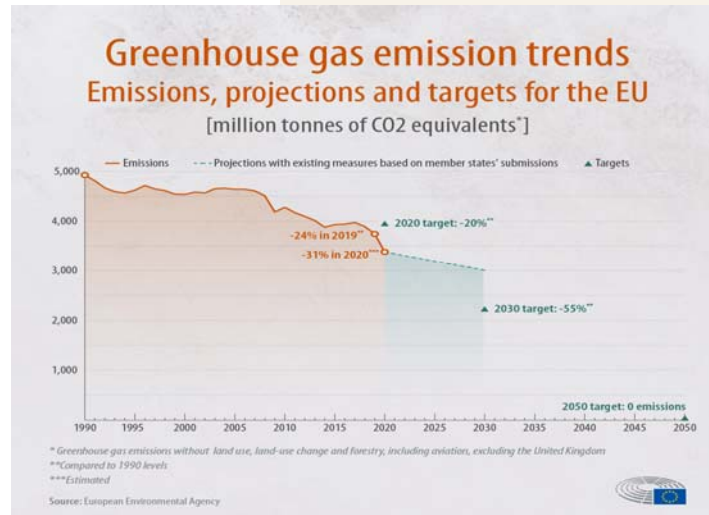
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How to reach Sustainability



European Green Deal

- Fit for 55 > emission reduction target by 2030
- Zero emission target by 2050
- EU climate law
- Circular economy



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How to reach Sustainability



European Green Deal

- Fit for 55 > emission reduction target by 2030
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<p>fresh air, clean water, healthy soil and biodiversity</p>	<p>renovated, energy efficient buildings</p>	<p>healthy and affordable food</p>	<p>more public transport</p>
<p>cleaner energy and cutting-edge clean technological innovation</p>	<p>longer lasting products that can be repaired, recycled and re-used</p>	<p>future-proof jobs and skills training for the transition</p>	<p>globally competitive and resilient industry</p>

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How to reach Sustainability

UN Sustainable Development Goals

- 17 goals addressing all aspects of sustainability worldwide
- Different action points per country and organization

























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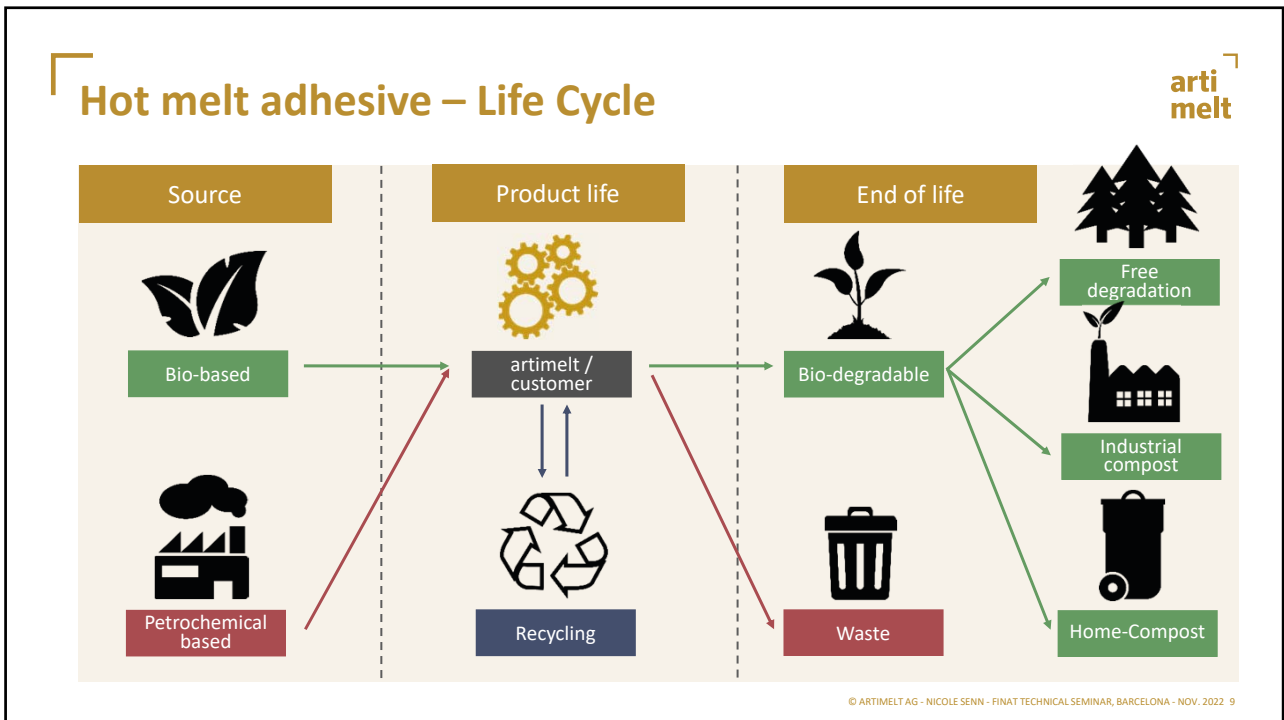
Hot melt adhesives for a sustainable world





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Applications of sustainable hot melt

Biobased hot melt adhesives

- Reduced net. CO₂ emissions
- Renewable feedstock – CO₂ uptake
- Caution on food chain
- Long and short time usage thinkable

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Applications of sustainable hot melt

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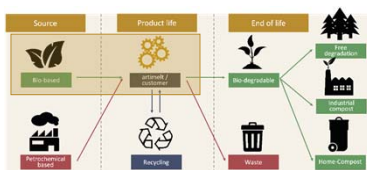
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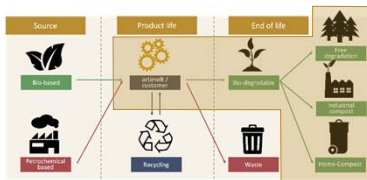
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Applications of sustainable hot melt



Biodegradable hot melt adhesives

- Products do not require waste treatment, can decompose
- Especially suitable for short time usage – f.e. food packaging



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Applications of sustainable hot melt



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Applications of sustainable hot melt

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“recyclable” hot melt adhesives

- In existing processes
- Recyclable with goods
- Removable from goods



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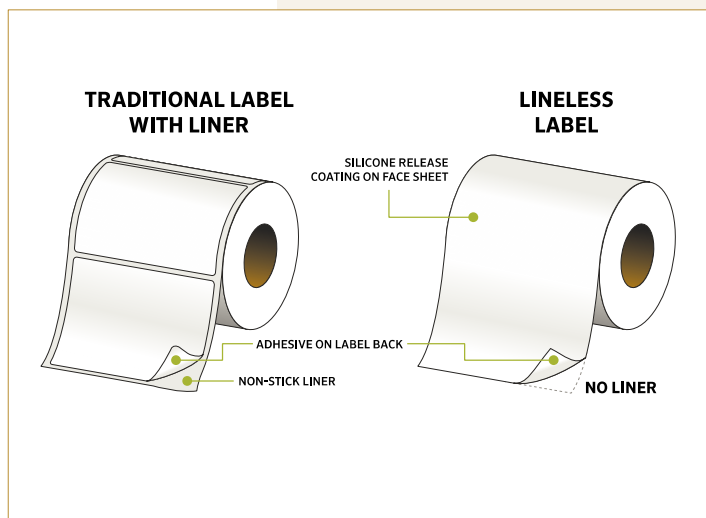
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Applications of sustainable hot melt

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Conventional hot melt adhesives – sustainable use

- Better adhering adhesives – less coat weight
- Linerless adhesives – less waste, more labels per roll
- Improve durability of adhesives – longer use




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How can we measure sustainability?





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Life Cycle Assessment (LCA)

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Tool to check sustainability of a product or a company

- Measured in CO₂-equivalents – CO₂ footprint
- Different weighted emissions
- CO₂ uptake has a benefit in the equation
- Different methods, with different outcomes
- Tool to compare the different impacts of products



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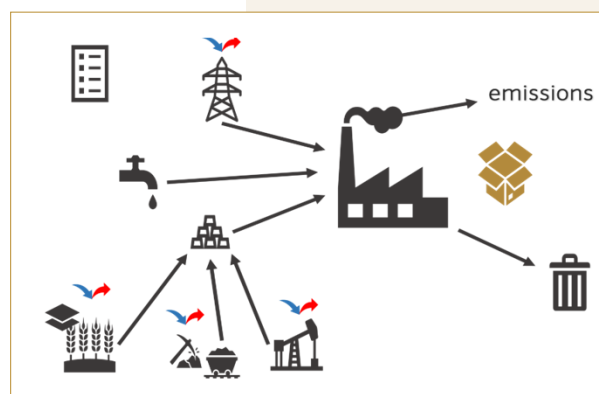
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LCA of artimelt hot melt

artimelts target

- Self-Check: ecological benefit in bio-sourcing
- Know our own impact
- Identify points for optimization
- First profound LCA values for chosen hot melts
- Basic work done for further investigation/evaluation

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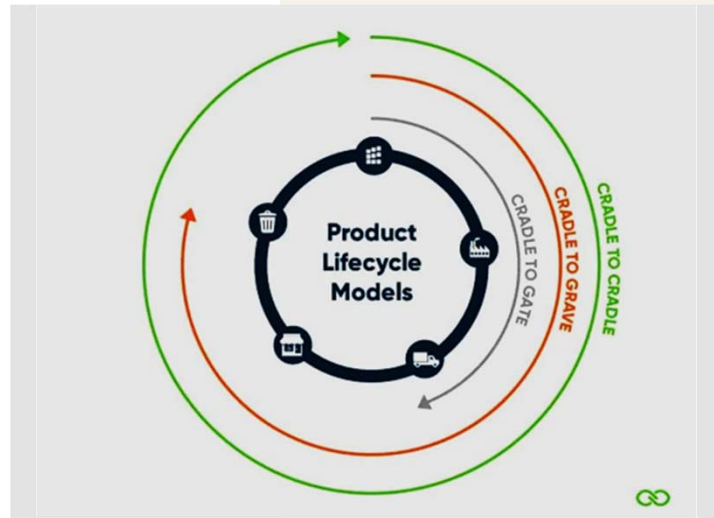
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Many ways to certify in relation to sustainability?

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Certifications and their limits

Bio-source

- ASTM D6866 / EN 16785 (tested acc. EN 16640) / ISO 16620
- renewable carbon content
- Radio-carbon measurement











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Certifications and their limits

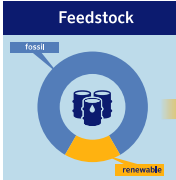
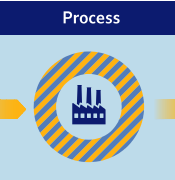
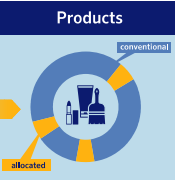
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Mass balancing



PRINCIPLE OF MASS BALANCE APPROACH

Feedstock	Process	Products
		
Use of renewable feedstock in very first steps of chemical production (e.g. steam cracker)	Utilisation of existing integrated production for all production steps	Allocation of the renewable share to selected products

available at www.renewable-carbon.eu/graphics

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Certifications and their limits

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Bio-degradation

- EN 13432 / ISO 17088 / ASTM D6400 / ...
- Testing of final product required
- Easier process with certified raw materials
- Man made classification vs. real processes



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Certifications and their limits

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Recycling

- Different test protocols for different plastics
- Different processes in each country
- Quality of the recyclate – number of cycles



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Contact arti melt



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