Arlas environmental strategy and bioplastics

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Arla Foods' Environmental Strategy 2020-status

-30% CO2e

per kg milk at farm level

-25% CO2e

operation, transport, packaging

Animal

Nature

100% responsible soy

50% renewable energy

Energy & water efficiency (3% per year)

Zero waste to landfill

100% sustainable cocoa & palm oil

-50% food waste

100% packaging recyclable

Arla's Environmental Strategy 2020

-25% carbon dioxide equivalents (CO_2e)

Arla strives to increase the use of renewable materials.

- 55% of the packaging material Arla use are today bio-based
- 3% of all plastics Arla use are today bio-based

Arla strives to increase the use of recycled materials.

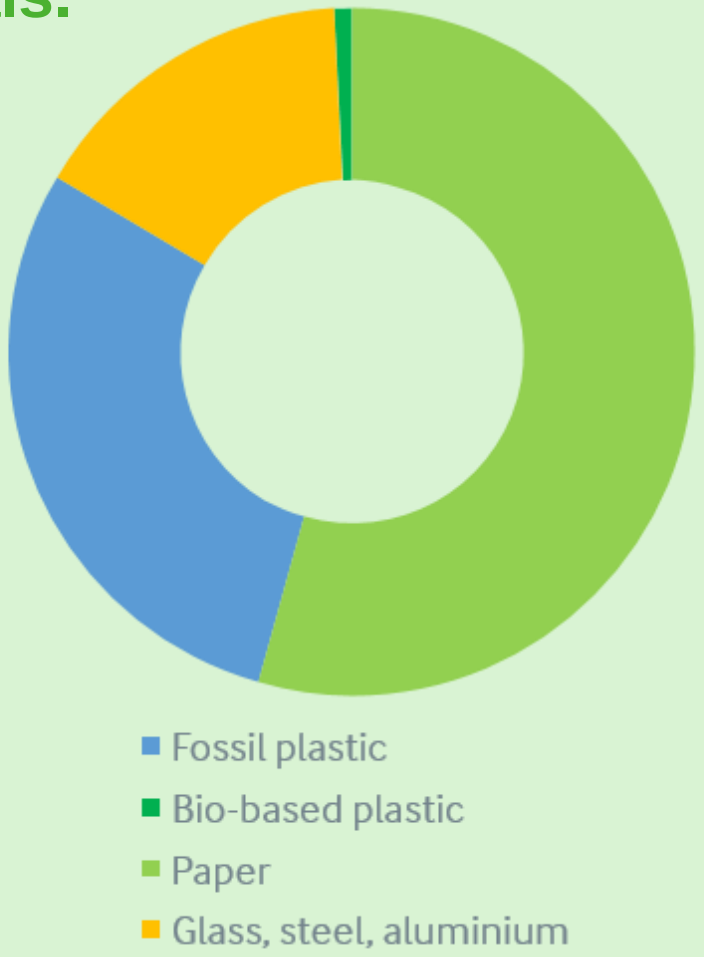
34% of the material Arla uses is recycled.

- 13% of the plastic
- 40% of the paper
- 54% of the glass, steel and aluminium

Arla strive to use low carbon packaging:

- Paper — No water resistance
- Steel — To heavy, corrosion
- Glass — To heavy, splitter
- Aluminium — Energy, price, corrosion
- Plastic — Light, cheap, waterproof, durable

Arla's total packaging materials 2



Plastics and waste handling

	Recyclable in general facilities, can mix in waste streams	**Industrial compostable Harmful to fossil types in recycling**	**Home / Ocean compostable Harmful to fossil types in recycling**
Bio based plastic	Kerbside collection, sorting and recycling. Circular economy	Needs factory for processing. Linier economy.	Free littering Liniar economy Uncollected greenhouse gas emission ?
Fossil based plastic	Conventional types Kerbside collection, sorting and recycling. Circular economy	Residues ? Linier economy	Residues ? Linier economy

Biobased plastic in the marketplace

All plastic in organic milk cartons is converted to sugarcane based PE, claiming a CO2 reduction of 20+15%

Market Challenge: PERCEPTION is everything!

Biobased plastic is invisible in the market

Driving the development in biobased plastic

1.Generation Crop based

Issues of discussion
Farmland
Water
Fertilizers
Bio diversity
Transport and energy

2. Generation Waste based

Issues of discussion
Land
Diesel/Energy
Bio diversity

3. Generation ?

Algae farming in wastewater?
Bypass the plant step… Sun to hydrocarbons ?

Farming plastic vs Food
Farming Plastic vs Nature
Scaling the

Conclusion

We need to lower the carbon emission

Biobased plastic is a part of the solution

Packaging needs plastic.

Plastic must be recycled

Bioplastic need to be independent from food and nature

Questions ?

Thank you for listening