

International Natural and Organic Cosmetics Association



# Plastics & Natural Cosmetics: Reuse, renew, recycle, or replace?

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![](_page_3_Picture_0.jpeg)

#### **NATRUE** association

- International Natural and Organic Cosmetics Association
- **Mission:** protect and promote natural and organic cosmetics for the benefit of consumers worldwide
- Brussels-based, founded in 2007 by the pioneers of the sector including....

![](_page_3_Picture_5.jpeg)

![](_page_3_Picture_6.jpeg)

Dr. Hauschka

![](_page_3_Picture_8.jpeg)

![](_page_4_Picture_0.jpeg)

### **NATRUE: Areas of Activity**

#### 1. Advocacy

• No official legal definition - **voice** for the authentic sector

#### 2. Label

- Internationally applicable, founded in 2008
- > 6000 certified products, 250 brands, 32 countries

#### • 3. Research

• Involved in scientific projects

![](_page_4_Picture_9.jpeg)

![](_page_5_Picture_0.jpeg)

![](_page_5_Figure_1.jpeg)

![](_page_6_Picture_0.jpeg)

#### **Plastic**

- Polymeric material that may contain other substances to improve performance and/or reduce costs (IUPAC)
- In the 1960s from fossil fuels and their derivatives
- Today plastics make up 85% of beach litter

![](_page_6_Figure_5.jpeg)

![](_page_7_Picture_0.jpeg)

#### **Circular economy**

![](_page_7_Figure_2.jpeg)

![](_page_8_Picture_0.jpeg)

#### **Bioeconomy & Bio-based industries**

- **Bioeconomy** the **renewable segment** of the circular economy, including:
- Bio-based industries industries that produce products and services from natural, renewable resources, as well as waste, rather than from finite petrochemical sources

![](_page_8_Picture_4.jpeg)

![](_page_9_Picture_0.jpeg)

#### **Bioplastics**

• Plastics derived from **renewable biological substances** (biomass)

rather than the traditional methods using petroleum

|                 | <b>≠ biodegradable</b><br>plastics                                | <b>≠ compostable</b><br>plastics                                                                                 |
|-----------------|-------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|
| Degraded<br>by  | naturally occurring microorganisms<br>(bacteria, fungi and algae) |                                                                                                                  |
| Time<br>needed  | no reference                                                      | consistent with other compostable materials                                                                      |
| End<br>products | no reference                                                      | <ul> <li>CO2, H2O, inorganic<br/>compounds</li> <li>no visible, distinguishable<br/>or toxic residues</li> </ul> |

![](_page_9_Figure_5.jpeg)

![](_page_10_Picture_0.jpeg)

![](_page_10_Figure_1.jpeg)

![](_page_11_Picture_0.jpeg)

#### **EU strategies**

- Part of the transition towards a more circular economy
- To improve the sustainability of the EU economy
- EU Circular Economy Strategy aims to transform EU linear to circular economy (December 2015)
- EU Plastics Strategy aims to transition plastics economy to respect 3R reduce, reuse, recycle (January 2018)
- EU Bioeconomy Strategy aims to develop EU sustainable and circular bioeconomy (October 2018)

![](_page_12_Picture_0.jpeg)

### **1. EU Circular Economy Strategy**

- December 2015
- Covering the whole life cycle from production and consumption to waste management
- Targets to recycle **75%** of packaging waste by the year **2030**

![](_page_12_Picture_5.jpeg)

![](_page_13_Picture_0.jpeg)

### 2. EU Strategy for Plastics

- January 2018
- Every year EU generates **25 M tonnes** of plastic waste
- Less than **30%** is collected for recycling.
- EU Strategy for Plastics provides a basis for :
- Transforming the way plastics and plastics products are designed, produced, used and recycled
- ✓ Ensuring that all plastic packaging recyclable by 2030
- ✓ Reducing the use of **single-use plastics (March 2019)**

© NATRUE 2019 · Brussels Action that could restrict intentional use of microplastics

![](_page_13_Picture_10.jpeg)

![](_page_14_Picture_0.jpeg)

#### Single-Use Plastics Directive (March 2019)

addressing 10 single-use plastic products most often found on European beaches

![](_page_14_Figure_3.jpeg)

![](_page_15_Picture_0.jpeg)

## 3. EU Bioeconomy Strategy

- October 2018
- 14 concrete measures in 2019 under 3 key objectives:

1. Strengthening the bio-based sectors

- 2. Deploying bioeconomies across Europe
- 3. Protecting the ecosystem and understanding the ecological limitations of the bioeconomy
- EU total bioeconomy creates a turnover of €2 trillion and provides more than 18 million jobs

![](_page_15_Picture_8.jpeg)

![](_page_16_Picture_0.jpeg)

### EEA report - The circular economy and the bioeconomy

- August 2018
- 3<sup>rd</sup> in a series of reports on the circular economy evaluating EU circular economy policy from an environmental perspective
- Addresses circularity aspects of bio-based products and the sustainable use of renewable natural resources, also applied to cosmetics

![](_page_16_Picture_5.jpeg)

![](_page_17_Picture_0.jpeg)

### Why is this of interest to NOCs?

- New innovation supporting increased natural share ingredients, replacement of petrochemicals, sustainable sourcing
- Less waste Use of side streams for cosmetics (food by-products);
   optimising of manufacturing processes
- Growing consumer interest increased awareness of a product's total environmental impact

<u>Advantages</u> – improvements to a product's environmental footprint, its sustainability profile & fostering innovation for greener solutions

Microplastics restrictions & new packaging materials

![](_page_18_Picture_0.jpeg)

#### **Bio-based products development** – drivers and constraints

![](_page_18_Figure_2.jpeg)

https://ec.europa.eu/jrc/en/publication/ eu-bio-based-industry-results-survey

![](_page_19_Picture_0.jpeg)

![](_page_19_Figure_1.jpeg)

![](_page_20_Picture_0.jpeg)

### **Plastics IN cosmetics - microplastics**

- Small, water-insoluble particles (< 5 mm) from synthetic plastic polymers (non-biodegradable)
- Microbeads in cosmetics exfoliation in skin care or tooth polishing
- Enter water waste and pass unfiltered ending up in the sea
- Banned in the UK
- NATRUE Label criteria prohibited
- Natural alternatives:
  - ✓ Inorganic minerals (quartz sand)
  - ✓ Plant Isolates and derivatives:
    - Abrasives (sucrose from sugar cane); exfoliants (finely milled fruit seeds or shells e.g. from apricot, olive, walnut); cellulose beads; waxes (Carnauba Wax); hydrogenated oils (castor oil)

![](_page_21_Picture_0.jpeg)

### **Microplastics control**

- October 2015 Cosmetics Europe recommended to its members to discontinue microplastics usage by 2020
- EU Commission requested ECHA to prepare a proposal for possible restrictions concerning <u>intentionally</u> added microplastic particles under the scope of REACH – expected in January 2019
- NATRUE was invited to attended an ECHA workshop in May 2018, providing information on behalf of the natural cosmetics sector
- Some countries already ban (UK, France, Sweden, Canada, Taiwan, NZ) or are preparing it (Belgium, Italy, India, South

![](_page_21_Picture_6.jpeg)

Africa)

![](_page_22_Picture_0.jpeg)

## **Plastics AROUND Naturals -** Cosmetic Packaging

- NATRUE Packaging requirements
  - 1. Kept to a **minimum**
  - 2. Designed for **multiple uses**
  - 3. Recyclable packaging materials, possibly of renewable raw materials
  - 4. Halogenated plastics prohibited
  - 5. Pressurised gas packs only with Air,  $N_2$ ,  $O_2$ ,  $CO_2$ , Ar
- NATRUE Scientific Committee is currently reviewing new/updates to the Label criteria

![](_page_22_Picture_9.jpeg)

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#### Reuse, renew, recycle, or replace?

- **Practical** considerations glass?
- Sustainability considerations glass vs. plastics?
- **Safety** considerations migration between product and packaging
- Reuse not all plastics are (easily) recyclable & not all post-consumer material is 100% reusable for the necessary (cosmetic) quality
- Drivers for change changes in legislation and <u>consumers demands</u>

![](_page_23_Figure_7.jpeg)

Source: Cosmetics Europe

![](_page_24_Picture_0.jpeg)

![](_page_24_Figure_1.jpeg)

![](_page_25_Picture_0.jpeg)

## **NATRUE for sustainability**

- Rapid population growth, especially in the cities  $\rightarrow$  increase of urban waste
- EU inhabitant generates 0.5 tonnes MSW (municipal solid waste) / year
- 40-50% is organic waste useful raw materials
- $\rightarrow$  100 million tonnes of biomass / year in the EU
- NATRUE involvement in the EU industry consortium

"... to help solve environmental pollution and contribute to the transition to a renewable circular bio-economy through sustainably converting municipal waste into targeted products like cosmetic packaging."

![](_page_26_Picture_0.jpeg)

### **EU project URBIOFIN**

- From municipal solid waste to → cosmetic packaging
- Funded by BBI JU under EU Horizon 2020 (2017-2021)

![](_page_26_Picture_4.jpeg)

![](_page_26_Picture_5.jpeg)

![](_page_26_Picture_6.jpeg)

Horizon 2020 European Union Funding for Research & Innovation

• <u>www.urbiofin.eu</u>

![](_page_26_Picture_9.jpeg)

FROM URBAN WASTE TO BIOPRODUCTS THROUGH BIOREFINERY

![](_page_27_Picture_0.jpeg)

## **URBIOFIN** objective

 Biorefinery converting 10 tonnes of OFMSW (organic portion of the municipal solid waste) per day into different bioproducts with a high industrial interest:

- > Contributing to:
  - ✓ Solving **environmental pollution**
  - ✓ Transition to a **renewable circular bio-economy**
  - ✓ Reduction of the **biodegradable fraction** of MSW sent to landfill
  - Environmental and socio-economical sustainability
  - Implementation of the EU Bioeconomy Strategy

![](_page_27_Picture_9.jpeg)

![](_page_28_Picture_0.jpeg)

![](_page_28_Figure_1.jpeg)

![](_page_29_Picture_0.jpeg)

True Friends of Natural and Organic Cosmetics

#### Videos:

#### EN -

https://www.youtube.com/watch?v= 8eSFaY39AdE

#### DE -

https://www.youtube.com/watch?v=l eVvWdsRFVM

#### FR -

https://www.youtube.com/watch?v= cuWIN-sRFIo

#### IT -

https://www.youtube.com/watch?v= 9DchZRnYHPc

![](_page_29_Picture_11.jpeg)

![](_page_30_Picture_0.jpeg)

International Natural and Organic Cosmetics Association

![](_page_30_Picture_2.jpeg)

#### **Plastics & Natural Cosmetics:**

Reuse, renew, recycle, or replace?

![](_page_30_Picture_5.jpeg)

#### **Dr. Hana Musinovic** NATRUE Scientific & Regulatory Officer

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True Friends of Natural and Organic Cosmetics

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![](_page_31_Picture_10.jpeg)