



# Latest Policy News from Brussels with a Focus on Renewable Carbon in the EU Policy Landscape



Nicolas Hark, nova-Institut GmbH, October 19<sup>th</sup> 2021

## Policies regulating chemical & material sector:

- SUPD
- Plastic tax
- Packaging & packaging waste directive
- EU Sustainable finance taxonomy
- REACH
- RED II
- EU ETS
- Sustainable Product Initiative

- Future circular economy and climate policies may address materials, products more directly
- **Consequently:**  
Regulation according to circularity capabilities and CO<sub>2</sub> emissions
- Will directly/indirectly address recycled and renewable content

## Single Use Plastics Directive (SUPD):

- Implemented in national law in July '21
- Regulation of single use plastic products (banning of products, limiting use of products, stricter requirements for marking etc.) **regardless** of feedstock type (recycled, bio-based etc.) or material properties (e.g. biodegradability)
- **Instead:** Covers all polymers, except **chemically unmodified natural polymers**
  - chemical modification = breaking or forming of covalent bonds
    - Initially, Viscose and Lyocell were classified as plastic which resulted in incomprehension and discussions;
    - Final SUPD guidelines withdrew this interpretation and do not classify Viscose and Lyocell as plastic
  - natural polymer = polymerisation, that has taken place in nature, independently of extraction
    - **However:** Fermentation **not** understood as natural process, subsequently classifying **PHAs** as unnatural polymers

- **Single use plastic product:** product that is made wholly or partly from plastic and that is not conceived, designed or placed on the market to accomplish [...] multiple trips or rotations by being returned to a producer for refill or re-used for the same purpose for which it was conceived
- **Plastic:** a material consisting of a polymer [...] which can function as a main structural component of final products, with the exception of natural polymers that have not been chemically modified
- Also includes targets for recycled content in beverage bottles (PET and others)
  - **From 2025:** PET bottles contain at least 25 % recycled plastic, calculated as an average for all PET bottles placed on the market; 77 % by weight shall be recycled
  - **From 2029:** 90 % by weight shall be recycled
  - **From 2030:** contain at least 30 % recycled plastic, calculated as an average for all such beverage bottles placed on the market

**ANNEX Part A:** Member States shall take the necessary measures to achieve an **ambitious and sustained reduction** in the consumption of the following single-use plastic products:

- Cups for beverages (including lids)
- Food containers

**ANNEX Part D:** Member States shall ensure that each of the following products bears a **clear marking on its packaging** regarding appropriate waste management and the presence of plastics in the product:

- Sanitary towels (pads)
- Tampons and tampon applicators
- Wet wipes, i.e. pre-wetted personal care and domestic wipes
- Tobacco products with filters and filters marketed for use in combination with tobacco products
- Cups for beverages

# Which products fall in the scope of the SUPD?



- **ANNEX Part E:** Member States shall ensure that the producers of the following single-use plastic products cover costs pursuant to **extended producer responsibility** measures
- **ANNEX Part G:** Member States shall take **measures to inform consumers** about re-usable alternatives, the impact of littering and inappropriate means of waste disposal

## Part E & G:

- Food containers
- Packets and wrappers made from flexible material containing food that is intended for immediate consumption
- Beverage containers with a capacity of up to three litres
- Cups for beverages, including their covers and lids
- Tobacco products
- Wet wipes
- Balloons
- Lightweight plastic carrier bags

## Part G only:

- Sanitary towels (pads), tampons and tampon applicators

# Which products are banned in the scope of the SUPD?



**Annex part B:** Member States shall prohibit the placing on the market of the following single-use plastic products:

- Balloon sticks
- Beverage stirrers
- Cotton bud sticks
- Cutlery (forks, knives, spoons, chopsticks)
- Plates
- Straws
- Cups for beverages made of expanded polystyrene
- Food containers made of expanded polystyrene
- Beverage containers made of expanded polystyrene
  
- Also generally: products made from oxo-degradable plastic

## EU Plastic Tax:

- application of uniform call rate to weight of plastic packaging waste generated in each Member State that is not recycled (**0,80 € per kg**)
- No differentiation between source of carbon in plastic packaging waste
- Some countries take measures further, e.g. **Italy**: in the process of implementing its own system of taxing plastic packaging waste, which is set to exempt **recycled** and biodegradable plastics

**“Most countries plan to simply pay the Plastic Tax as a lump sum and not allocate it to the products! Only Poland, Spain and Italy want to pass on the tax (at least partially) to the plastic products.”**

*- Quote from an exchange of nova with a high-ranking representative of a large corporation*



## Packaging & packaging waste directive (PPWD):

- Current version states: "Member States shall, where appropriate, encourage the use of materials obtained from recycled packaging waste for the manufacturing of packaging and other products"
- Also includes: efforts to develop measures to **promote recycled content** in packaging
- PPWD currently being reviewed to include specific **recycled content targets** for packaging materials in next version
- How exactly will recycled content targets be implemented in PPWD?



Different approaches were discussed among policy makers and stakeholders, not finally decided on yet

Revision of PPWD foreseen for 4<sup>th</sup> quarter of 2021

**EU Taxonomy** is first piece of legislation introducing specific support for renewable and sustainable feedstock use

## **EU sustainable finance taxonomy:**

- In force: July 2020
- First endeavour of its kind: Defines sustainability criteria to determine, if an investment is environmentally sustainable
- An economic activity shall qualify as contributing substantially to **the transition to a circular economy**, including waste prevention, re-use and recycling, where that activity:
  - uses natural resources, including sustainably sourced bio-based and other raw materials
  - increases the use of secondary raw materials and their quality, including by high-quality recycling of waste

- An economic activity shall qualify as contributing substantially to **climate change mitigation** where that activity contributes substantially to the stabilisation of greenhouse gas concentrations in the atmosphere [...] by:
  - switching to the use of sustainably sourced renewable materials
  - producing clean and efficient fuels from renewable or carbon-neutral sources
  - increasing the use of environmentally safe carbon capture and utilisation (CCU) and carbon capture and storage (CCS) technologies that deliver a net reduction in greenhouse gas emissions
  - generating, transmitting, storing, distributing or using renewable energy in line with Directive (EU) 2018/2001 (RED II)
- **Technical screening criteria** currently being developed to:
  - Identify most relevant potential contributions to these goals
  - Set thresholds and quantify the measures/goals
  - Specify minimum requirements

## Opportunities:

- Public funding for sustainable renewable feedstocks in material sector made possible
- Clearly defines: What is considered to be environmentally sustainable and what counteracts climate change?
- **RED II** sets minimum qualifications for sustainable biomass; adopted by taxonomy
- Agricultural biomass shall not be obtained from land with a high biodiversity value, namely:
  - Primary forests and other wooded land
  - Highly biodiverse forests
  - Areas designated for nature protection purpose
  - Highly biodiverse grasslands
  - Land with high carbon stock (wetlands, continuously forested areas – in reference to land status in Jan. '18)
  - Peatland (again in reference to land status in Jan. '18)

## REACH: Registration, Evaluation, Authorisation and Restriction of chemicals

- Exemption for polymers: Only **authorisation** and **restriction** measures required for polymers
- Current discussion, if registration shall become obligatory for polymers
- ECHA proposed amendment of REACH:
  - Intentionally added microplastics shall be banned
  - **Biodegradable** plastics excluded from proposed ban, thus valuable alternative
- Products proposed to be banned by ECHA:
  - Polymers in: seed coatings, fertilizers, plant protection products
  - Cosmetics
  - Detergents and cleaning agents

- **Key take aways:**

- **32%** renewable energy share in the EU by 2030
  - Electricity, transport, heating & cooling
  - **14% transport quota** for renewable energy including biofuels, renewable electricity and CO<sub>2</sub>-based fuels
- 
- **Fit-for-55 package** includes proposed **revision** of RED II
  - Although the RED II specifically covers renewable energy, it directly impacts the material sector with its measures
  - Energy sector obtains clear economic advantages over the material sector regarding biomass feedstocks induced by quotas and multiplication factors for bioenergy

## Biofuels:

- **'bioliquids'** means liquid fuel for energy purposes other than for transport, including electricity and heating and cooling, produced from biomass
- **'biofuels'** means liquid fuel for transport produced from biomass
- **'advanced biofuels'** means biofuels that are produced from feedstocks listed in part A of Annex IX
- **'biomass fuels'** means gaseous and solid fuels produced from biomass

## CCU fuels:

- **'renewable liquid and gaseous transport fuels of non-biological origin' (RFNBO)** means liquid or gaseous fuels which are used in transport other than biofuels whose energy content comes from renewable energy sources other than biomass
  - All kinds of CO<sub>2</sub> sources are accepted, as long as the CO<sub>2</sub> source is not elastic (meaning that the emission source does not respond to demand from the CCU process)
- **'recycled carbon fuels'** means liquid and gaseous fuels that are produced from liquid or solid waste streams of non-renewable origin [...] and waste processing gases and exhaust gases of non-renewable origin which are produced as an unavoidable and not intentional consequence of the production process in industrial installations
  - E.g. from flue gases from steel or concrete production



- 14% transport quota for renewable energy including **CO<sub>2</sub>-based fuels**
- Minimum share of **advanced biofuels**
  - 0.2% in 2022
  - 1% in 2025
  - 3.5% by 2030
  - CCU fuels do **not** count as advanced biofuels
- The **greenhouse gas emission savings** from the use of RFNBO excluding recycled carbon fuels shall be at least 70% as of 1 January 2021.

### Multiple counting factors:

- Advanced biofuels (based on feedstocks in Annex IX A) **x2**
- Renewable fuels used in shipping and aviation (except fuels produced from food and feed crops) **x1.2**
- Renewable electricity supplied to road vehicles **x4**
- Renewable electricity supplied to rail transport **x1.5**

### ANNEX IX A

- Algae if cultivated on land in ponds or photobioreactors.
- Biomass fraction of mixed municipal waste
- Bio-waste
- Biomass fraction of industrial waste not fit for use in the food or feed chain
- Straw
- Animal manure and sewage sludge
- Palm oil mill effluent and empty palm fruit bunches
- Tall oil pitch
- Crude glycerine
- Bagasse
- Grape marcs and wine lees
- Nut shells
- Husks
- Cobs cleaned of kernels of corn
- Biomass fraction of wastes and residues from forestry and forest-based industries, i.e. bark, branches, pre-commercial thinnings, leaves, needles, tree tops, saw dust, cutter shavings, black liquor, brown liquor, fibre sludge, lignin and tall oil
- Other non-food cellulosic material
- Other ligno-cellulosic material except saw logs and veneer logs



- **Currently:** Subject of revision in the course of “Fit-for-55”-package
- EU renewable energy share targeted to be **38 – 40 % in 2030** instead of 32 % in current version
- 14 % quota for renewable energy in transport proposed to change: “amount of renewable fuels and renewable electricity supplied to the transport sector leads to a **greenhouse gas intensity reduction of at least 13 % by 2030**”
- Minimum share of **advanced biofuels** in transport (based on materials listed in Annex IX A):
  - 2022: **0,2 %**;
  - 2025: **0,5 %**;
  - 2030: **2,2 %**
  - Share of RFNBO by 2030: **2,6 %**
- RFNBO & recycled-carbon fuels require 70 % emission savings compared to 65 % emission savings required for biofuels, bio-liquids and biomass fuels

- **Increased transport quota (10% 2020 → 14% 2030)**
  - Potentially negative since demand for biomass may increase further; uncertain whether regulations on CCU fuels, cap on 1<sup>st</sup> generation etc. lead to a relaxation for the biomass market
- **Minimum share of advanced biofuels**
  - Potentially negative, depending on the feedstock (e.g. tall oil, animal fats, glycerol, pulp wood are still included in Annex IX A)
- **Cap on biofuels from food and feed crops at 7% (+ incentive for Member States to decrease further)**
  - Potentially positive since demand for crops typically used in the chemical industry (starch, sugar) may not increase much further, stagnate or even decrease
- **Biogas, advanced biofuels favoured in LCA**
  - Feedstocks in Annex IX A for biogas & advanced biofuels production can be considered to be twice their energy content (multiplication factor for sustainability)
  - Require less emission savings as RFNBO → Bio-fuels favoured

- Emission trading scheme to trade CO<sub>2</sub> emission allowances
- Annex I defines activities and their GHG emissions covered by the EU ETS
- It applies to specific energy-intensive sectors:
  - carbon dioxide (CO<sub>2</sub>) and other GHG emissions (see Annex I) from electricity and heat generation, oil refineries, [...] acids and bulk organic chemicals [...]
- Specific activities in the Annex I:
  - Production of nitric acid, adipic acid, glyoxal and glyoxylic acid, ammonia, bulk organic chemicals (by cracking, reforming, oxidation or similar processes with production capacity exceeding 100 tonnes/day),
  - But also capture, transport and storage of GHGs from installations covered by ETS for the purpose of transport and geological storage (permitted under Directive 2009/31/EC)
- CO<sub>2</sub> tax reductions possible by reducing emissions linked to production process

## Legal status:

- Currently being developed; to be adopted by Commission in Q4 2021 with feedback period upcoming
- Will revise Ecodesign Directive and propose additional legislation
- Covers chemicals (among other products)

## Aim:

- reducing overall life-cycle climate and environmental footprint, [...] increasing circular material use rate, reducing waste and achieving higher recycling rates
- establishing overarching product sustainability principles

- EU policy steers heavily towards **circularity**, **climate change mitigation**, and **sustainability**
- “European Green Deal”, “New Circular Economy Action Plan” and the recently published “Fit-for-55 package” are keys to strengthen the efforts politically
- **General content:**
  - Reduction of CO<sub>2</sub> emissions with strengthening of the EU ETS & CBAM
  - Increasing circularity by promoting “Recycling” as the absolutely preferable End-of-Life option in EU waste frameworks
  - Strengthening sustainability by developing criteria for sustainable biomass production and environmentally sustainable investments in industries
  - Increasing renewable energy targets in transport and electricity in the RED II revision

“Fossil carbon, [...] is the main cause of manmade climate change as it leads to the emission of additional CO<sub>2</sub> into the atmosphere. **If we now want to introduce new, sustainable and future-oriented reusable systems for packaging and catering, these must not be based on virgin crude oil [...].** Especially since today almost all plastics and many other materials can just as well be obtained from biomass, CO<sub>2</sub> and recycling. The system change must not happen on the basis of petroleum - **no one today would think of relying on petroleum for a new concept in mobility. And it should be the same for plastics!**”

# Thank you for your attention!



**M. Sc. Nicolas Hark**  
nicolas.hark@nova-institut.de

Agriculture  
Economics  
Policy

