



# Preparatory Study on Textile Products

First on-line stakeholder consultation

18 -19<sup>th</sup> March 2024

WEBEX SESSION

## ETIQUETTE FOR VIRTUAL MEETING PARTICIPANTS

- ❖ Please indicate your **NAME, SURNAME** and **ORGANISATION** on Webex
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# Preparatory Study on Textiles for product policy instruments

1<sup>st</sup> Online Stakeholder Consultation Meeting – Day 1 – 18 March 2024

## Joint Research Centre (JRC)

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# Aim of the meeting

- JRC is supporting the development of the first Delegated Act under the ESPR. Addressing textile apparel.
- Background to this on-line consultation: “Preparatory study on textiles for product policy instruments – 1st milestone”. Shared on 23rd February
- Purpose is to verify the work done to date and to collect additional information and views
- Comments to be provided in writing until April 22nd
- Further developments will be presented in subsequent workshops

Section	Time (duration)	Topic
Log-in and preparation	09:30-09:45 (15 min)	
Rules and aim of the meeting	09:45-09:50 (5 min)	Presentation (Chair) <ul style="list-style-type: none"> <li>- Housekeeping rules</li> <li>- Aim of the consultation</li> <li>- Structure of the meeting</li> </ul>
Introduction	09:50-10:35 (45min)	Presentation (DG ENV) <ul style="list-style-type: none"> <li>- Context and legal framework</li> <li>- Aim</li> </ul>
		Presentation (JRC) <ul style="list-style-type: none"> <li>- Methodology</li> <li>- Involvement of stakeholders</li> </ul>
		Questions and Answers
Scope	10:35-11:25 (50 min)	Presentation (JRC) <ul style="list-style-type: none"> <li>- Selection criteria</li> <li>- Included products</li> <li>- Excluded products</li> </ul>
		Questions and Answers
Break	11:25-11:45 (20 min)	
Standards and environmental labels	11:45-12:05 (20 min)	Presentation (JRC) <ul style="list-style-type: none"> <li>- Tests and standards</li> <li>- Environmental labels</li> </ul>
		Questions and Answers
Market (1of2)	12:05-12:55 (50 min)	Presentation (JRC) <ul style="list-style-type: none"> <li>- Global market</li> <li>- EU market</li> <li>- Main elements of apparel textiles</li> </ul>
		Questions and Answers

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# Introduction

- Context and legal framework
- Aim of the study
- Methodology
- Involvement of stakeholders

# Presentation from DG ENV

# Introduction

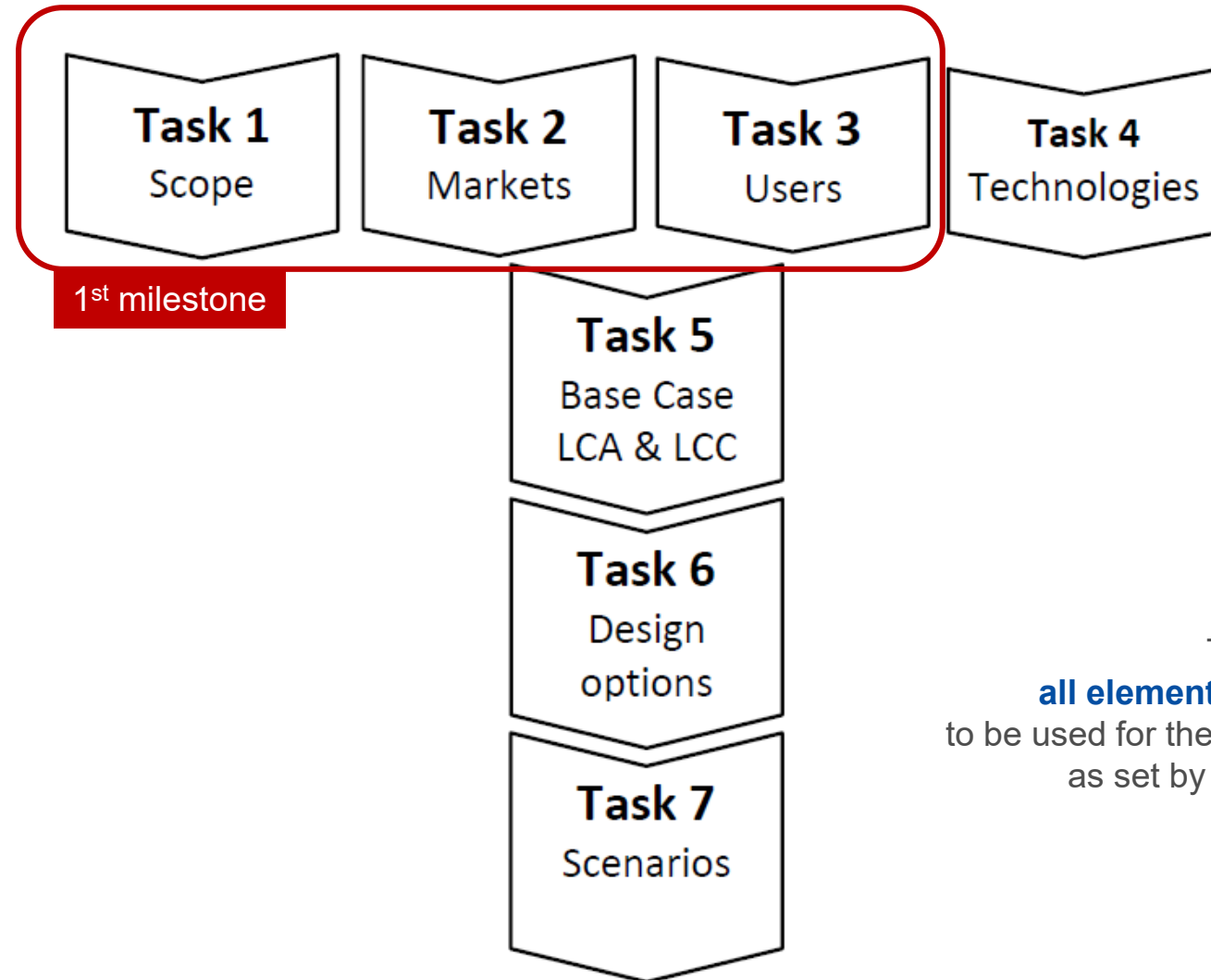
## Q&A

Are there any questions related to:

- Context and legal framework
- Aim



# Methodology



The PS will include  
**all elements of the Preliminary Report,**  
to be used for the revision of the EU Ecolabel criteria,  
as set by the EU Ecolabel Regulation

# Involvement of stakeholders

Milestone	Topic addressed	Date
Initial questionnaire	Definitions, scope, market analysis, user behaviour, ecodesign aspects, EU Ecolabel, EU Green Public Procurement	30 March 2023 – 8 May 2023
1 <sup>st</sup> milestone	Scope, market, user behaviour, current EU Ecolabel criteria, current EU Green Public Procurement criteria	23 February to 22 April 2024
2 <sup>nd</sup> milestone	Technologies, and analysis of base cases from environmental and economic perspectives	To be communicated
3 <sup>rd</sup> milestone	Analysis of ecodesign aspects, design options, policy scenarios, and information requirements, including elements to be included in the Digital Product Passport	To be communicated

# Involvement of stakeholders

## 1<sup>st</sup> milestone

Date	Action
On 16 February	JRC communicated the timeline of the consultation
On 23 February	JRC shared the working document
From 23 February to 15 March	Registered stakeholders may read the working document
On 18 and 19 March	Registered stakeholders and JRC will attend the online consultation meeting
From 20 March to 22 April	Registered stakeholders will be able to provide comments in writing to the working document



The JRC will publish on the project's website a document containing anonymised **written comments** submitted by the registered stakeholders with the **corresponding answers** of the JRC

Similar procedure will be followed  
for the 2<sup>nd</sup> and 3<sup>rd</sup> milestones

# Introduction

## Q&A

Are there any questions related to:

- Methodology
- Involvement of stakeholder

# Scope

- Selection criteria
- Included products
- Excluded products

# Definitions

## Textile product

'Textile product' means any raw, semi-worked, worked, semi-manufactured, manufactured, semi-made-up or made-up product which is exclusively composed of textile fibres, regardless of the mixing or assembly process employed, as well as a product containing at least 80% textile fibres by weight.

The definition of textile product is aligned with the definition provided by the Textile Labelling Regulation (TLR) <sup>(14)</sup>.

## Apparel textile

'Apparel textile' means a textile product worn as clothing or a clothing accessory by a person to clothe or adorn, principally to protect from the outer environment and very often to express their personal identity and/or belonging to a specific social group, with symbolic meanings and aesthetic values.

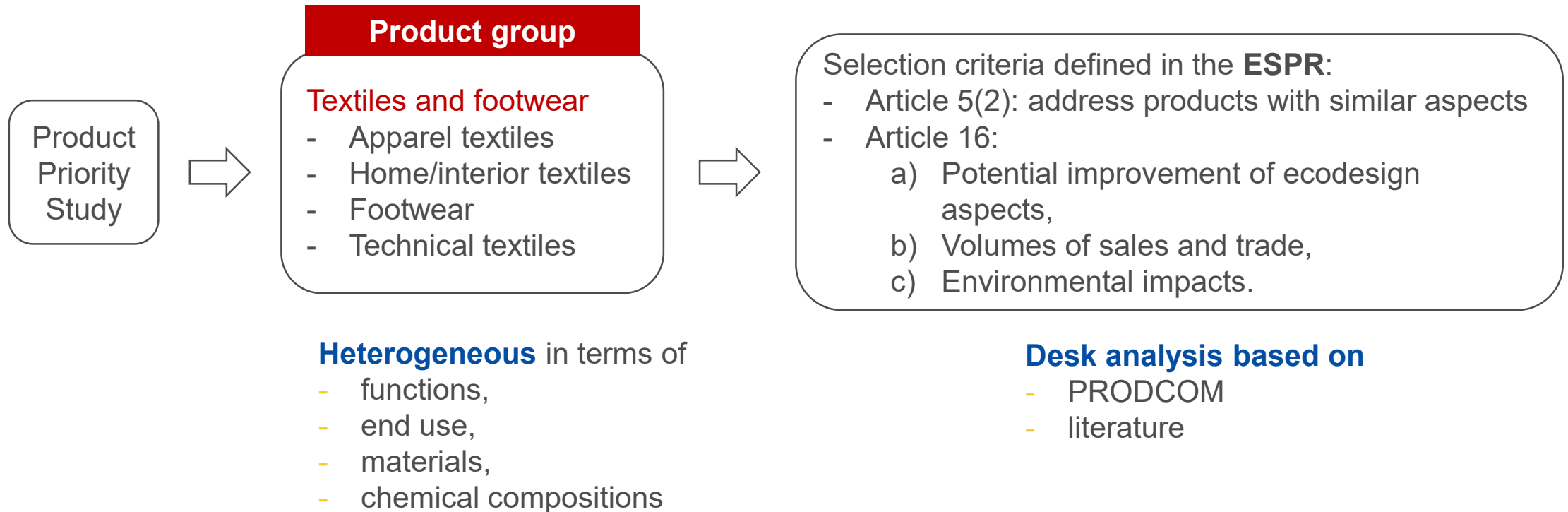
## Technical textile

Technical textiles are textile products meeting technical rather than aesthetic criteria, even if, for certain markets like workwear or sports equipment, both types of criteria are met. Technical textiles bring a functional answer to a wide range of specific requirements: lightness, resistance, reinforcement, filtration, fire retardancy, conductivity, insulation, flexibility, absorption and so on. The definition does not depend on the raw material, the fibre or the technology used, but on the end use of the product itself. Technical textiles can be used by professionals or not.

Apparel textiles meeting the definition above are defined as *technical apparel textiles*.

The definition of technical textiles is aligned with the definition provided by the European Economic and Social Committee <sup>(15)</sup>.

# Scope Selection criteria



# Scope

## Included products

ID	Category
01	T-shirts
02	Shirts and blouses
03	Sweaters and mid-layers
04	Jackets and coats
05	Pants and shorts
06	Dresses, skirts and jumpsuits
07	Leggings, stockings, tights and socks
08	Underwear
09	Swimwear
10	Apparel textiles accessories

### Apparel textiles

- have potential improvements already investigated in the literature
- have the largest share in the EU market
- produce the largest share of the environmental impacts

- Fully aligned with the scope of the **PEFCR A&F**
- Description available – Definition missing
- **PRODCOM codes** assigned to one or more product categories

Workwear  
and  
Sportswear

are **included in the scope**, as long as

1. they are apparel textiles
2. they do not belong to the list of excluded products

Have the same or very **similar characteristics** to be addressed in the same PS with the **same ecodesign requirements**

Article 5 of the  
ESPR



# Scope

## Excluded products

- Smart textiles
- Electronic textiles or e-textiles
- Apparel textiles identified as personal protective equipment (PPE)
- Apparel textiles identified as medical devices or as an accessory for a medical device
- Intermediate products, such as fabrics, yarns, fibers, etc.

Are excluded because they are **different products** from those included in the scope

Are excluded because their characteristics should be **strictly related to the function** of the specific apparel textile they are part of

# Scope Q&A

1. Do you agree with **definitions** provided for textile product, apparel textiles and technical textiles? Why?
2. Is there additional evidence to **enrich the literature** used for the selection criteria? Which are they?
3. Do you think that an initial Delegated Act on apparel textiles could disrupt the **supply chain** if requirements are not set at the same time also for home/interior textiles and other sub-groups of this product group? Why?
4. Is there a definition for each **product category**? Is the current description enough? Why?
5. Do you agree with the approach used for **workwear and sportswear**? Why?
6. Do you think that the **scope** is correctly defined? How can it be better described?
7. Do you agree with the exclusion of **intermediate products**? Why?

# Break



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## Break until 11:45

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# Standards and environmental labels

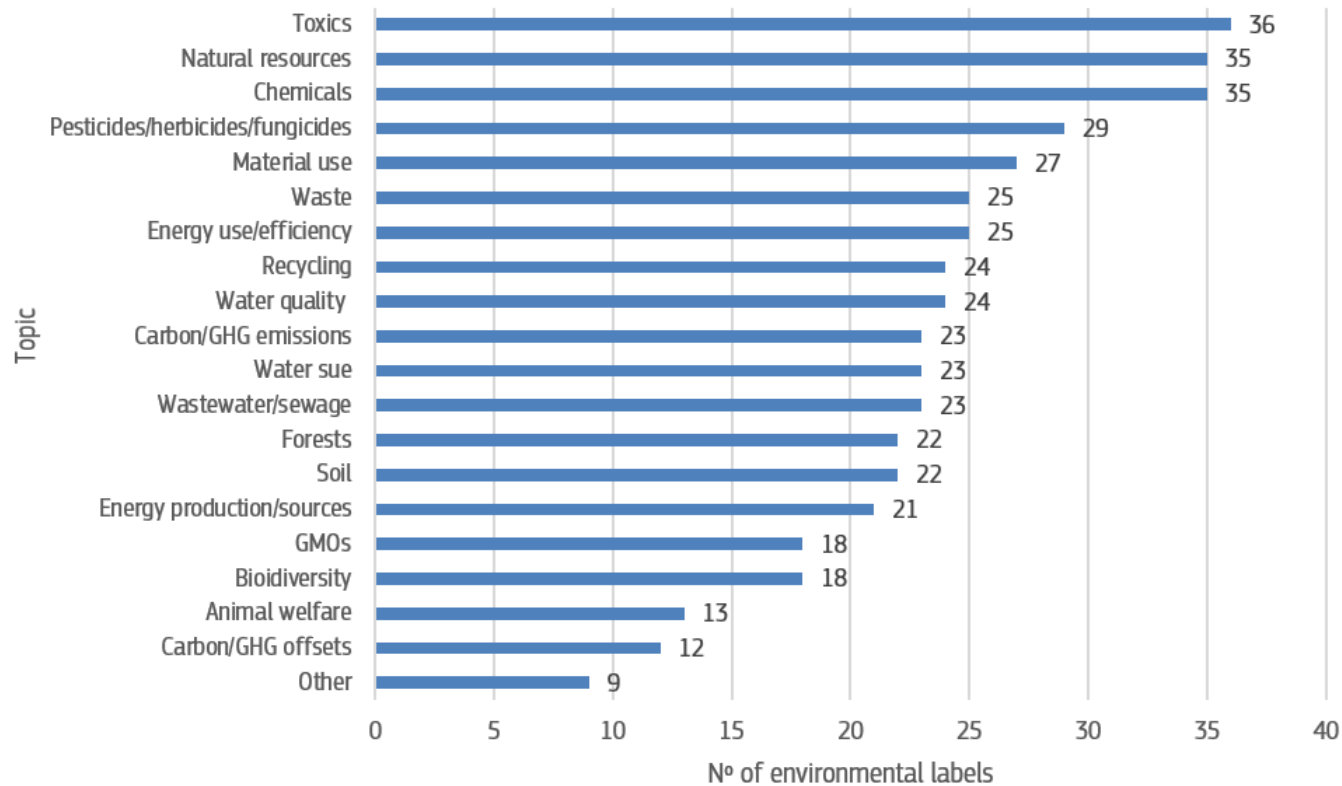
# Tests and standards

Aspect of the product	Topic addressed by the standard
Intrinsic durability	Abrasion, pilling, colourfastness, dimensional stability, seam slippage, tear strength, etc.
Functionality	Oil stain repellency, resistance to chlorinated water, water repellency, water resistance after aging, wicking, etc.
Characterization	Identification of dyestuff and fibres, thickness, mass per unit area and composition
Identification of specific substances	Alkylphenol ethoxylates (APEO), formaldehyde, and other chemicals
Loss of fragmented fibres	Release of fragmented textiles, synthetic and natural
Care information	Labelling symbols, etc.

No standard found for the **distinction** of virgin and recycled fibre

# Environmental labels

**Figure 2.** Main topics addressed by environmental labels used in 2021 in Europe



Source: Ranasinghe and Jayasooriya (2021)

## Analysis of Ecolabels



# Standards and environmental labels

## Q&A

1. Are there very **commonly used** standards that are not included in the list? Which are they?
2. Are there **standards** which could be helpful in the development of the PS that were not included in the list? Which are they?
3. Is there a standard capable of measuring the **composition** of mechanically **recycled fibres**?
4. Are there further studies analysing the **environmental labels** used in the textile industry? Which are they?



# Market (1 of 2)

- Global market
- EU market
- Main elements of apparel textiles

# Global market

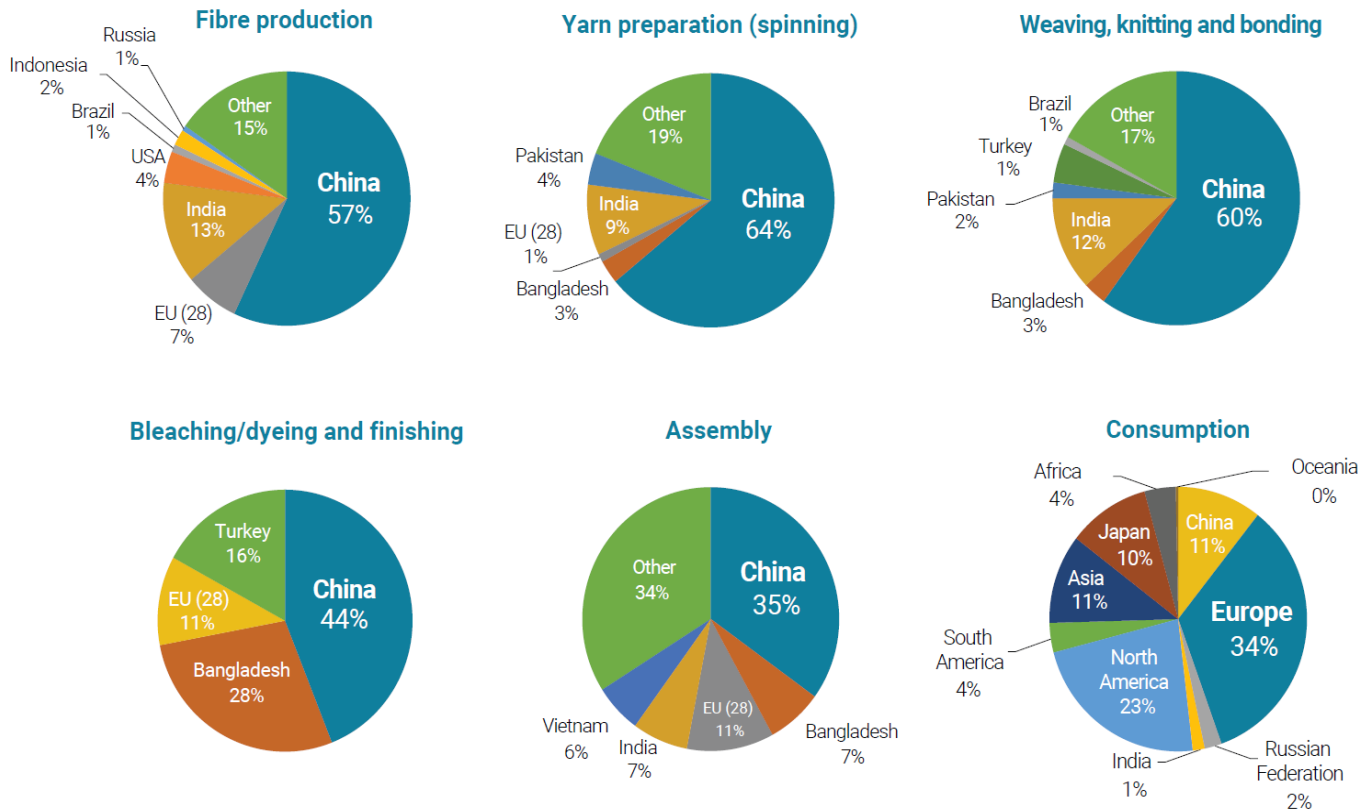
**Table 10.** Main historical events and international agreements affecting the European apparel sector

Year	Event
1974 to 1994	The Multifibre Arrangement (MFA), with the establishment of import quotas, protected the domestic market of developed countries from products produced in developing countries.
1995 to 2004	The Agreement on Textiles and Clothing (ATC) established a progressive removal of import quotas set with the MFA.
2005 onwards	Among members of the World Trade Organization (WTO), any trade of textile products were free of barriers – all import quotas were removed.
2005 to 2007	The Memorandum of Understanding between the EU and China allowed the monitoring of specific types of textile products imported from China. It aimed to prevent market distortions in the European textile sector.
2008	The Great Recession impacted the European textile sector.
2020	The COVID-19 pandemic led to global recession.
2022	The price of energy strongly increased in EU.

*Source: own elaboration based on World Trade Organization website*

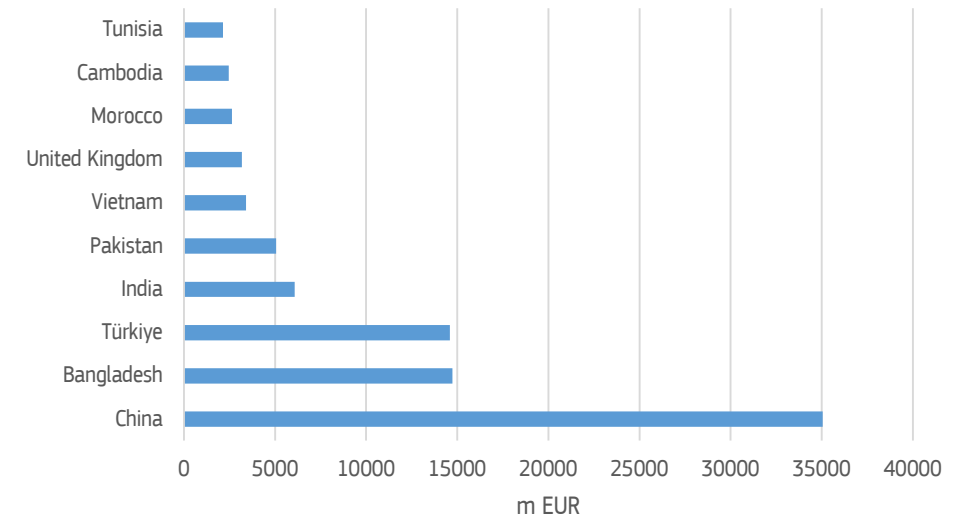
# Global market

## Geographical breakdown of global apparel production and consumption



Source: UNEP (2020)

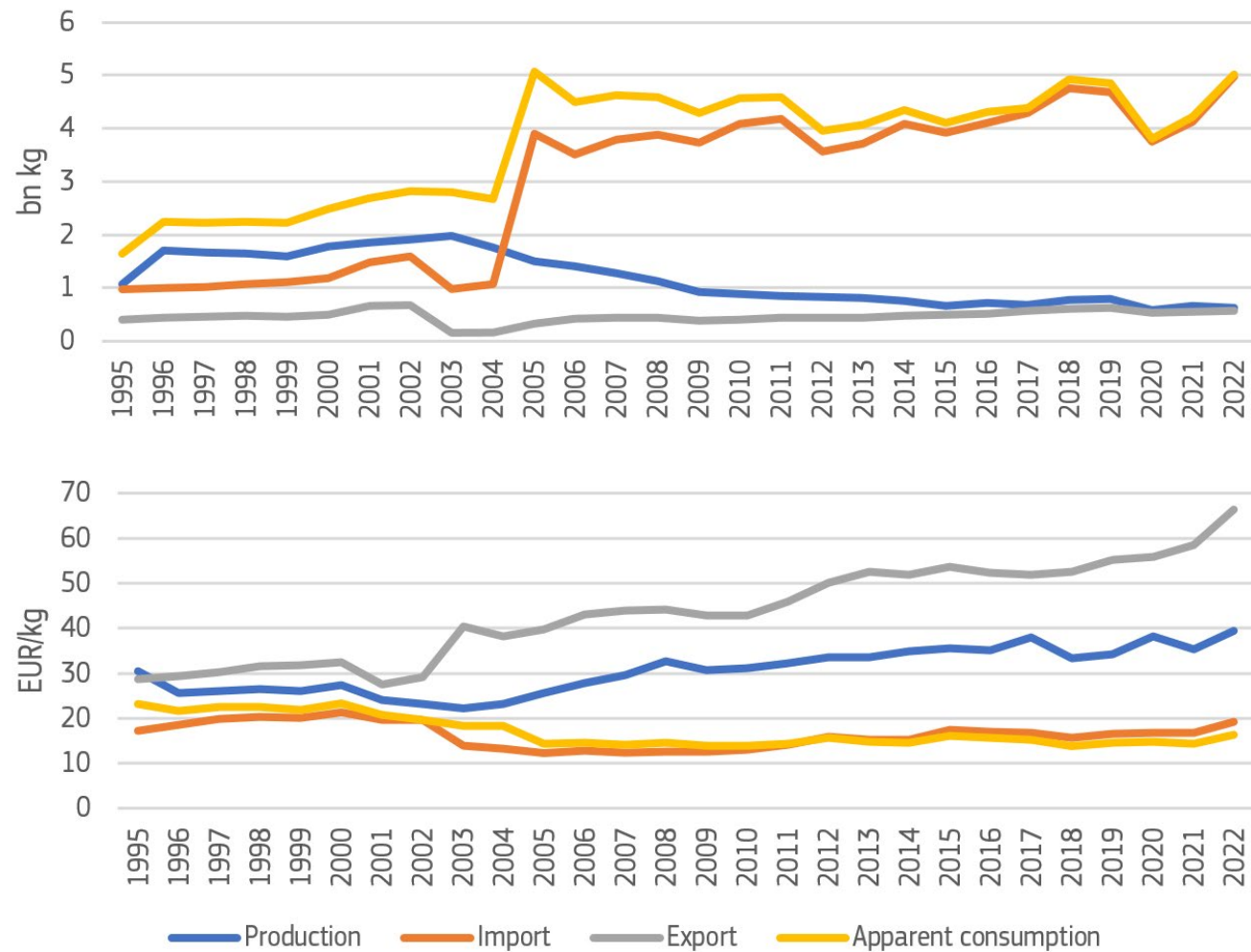
## The EU's main suppliers of textiles and apparel in 2021



Source: EURATEX (2022a)

# EU market

## Market indicators for apparel textiles in EU-27



# EU market

**Table 13.** Change of apparent consumption between the time intervals 1995-2004 and 2005-2019

Product category or subgroup	Change in mass (%)	Change in value (%)
1.T-shirts	236	133
2. Shirts and blouses	110	38
3. Sweaters and mid-layers	86	12
4. Jackets and coats	129	14
5. Pants and shorts	194	58
6. Dresses, Skirts and jumpsuits	33	20
7. Leggings, Stockings, Tights and socks	-33	-13
8. Underwear	15	-13
9. Swimwear	100	13
10. Accessories	11	20
Apparel textiles	86	27

N.B. The change is calculated by comparing the average mass and the average value in the two time intervals. More details are reported in **Table 42** in Section 9.1.5.

*Source: own production based on PRODCOM database (Sold production, exports and imports – DS-056120)*

# Main elements of apparel textiles Fibres

Estimates of global production of textile fibres in 2022

Rank	Fibre	Mass (m tonnes)	Share of the total (%)
1	Polyester	63.30	56
2	Cotton	25.50	23
3	MMCFs	7.30	6
4	Polyamide	6.20	5
5	Other plant based	6.03	5
6	Viscose	5.80	5
7	Polypropylene	3.10	3
8	Acrylics	1.60	1
9	Elastane	1.20	1
10	Wool-sheep	1.10	1
11	Acetate	0.90	<1
12	Down	0.61	<1
13	Flax	0.38	<1
14	Hemp	0.30	<1
15	Lyocell	0.30	<1
16	Modal	0.20	<1
17	Silk	0.09	<1
18	Other animal based	0.05	<1
19	Cupro	0.01	<1

Source: Textile Exchange (2023)

**Table 15.** Location of production for specific textile fibres

Polyester (PES)	Cotton	MMCF	Polyamide (PA)
Unknown 70% China 13% Others 10% Türkiye 7%	Unknown 39% India 23% Others 17% China 13% USA 8%	Unknown 58% China 18% Others 16% India 5% Indonesia 3%	Unknown 81% China 15% Taiwan 3% USA 1%

N.B. MMCF: man-made cellulosic fibres.

Source: adapted from (Textile Exchange, 2022)

# Main elements of apparel textiles

## Fibres

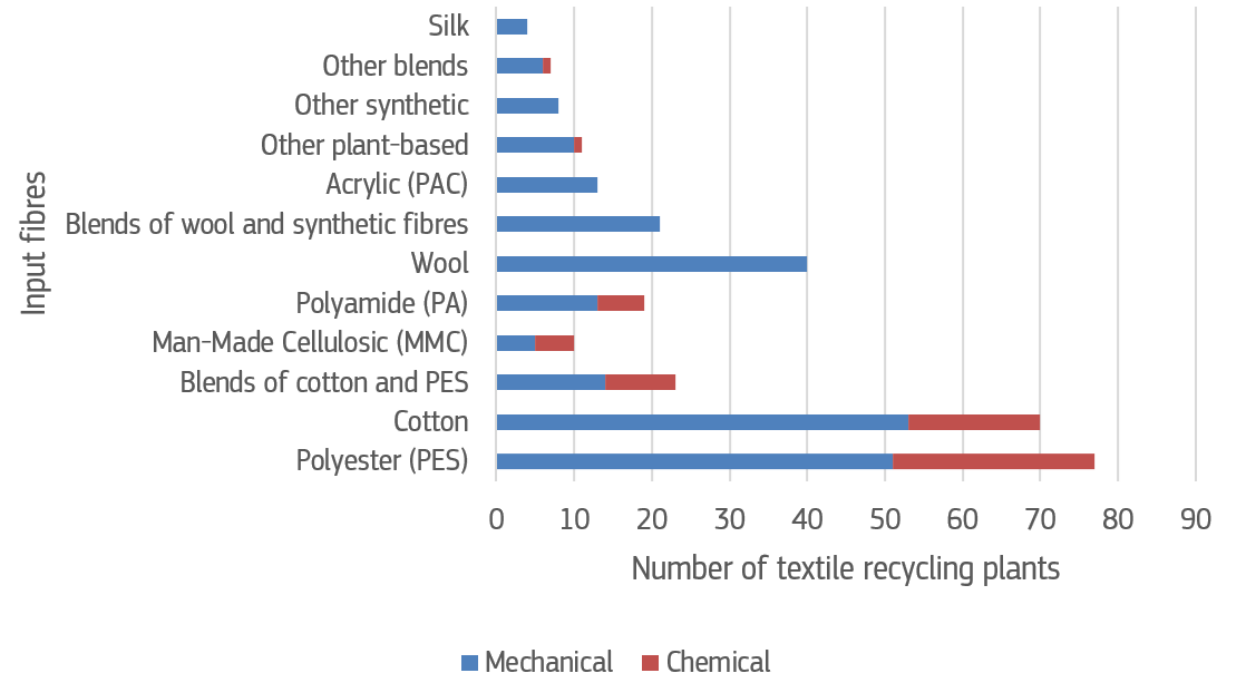
Estimated percentages (%) of recycled fibres

Fibre	2019	2020	2021	2022
Polyester (PES)	14	15	15	14
Wool	NA	6	6	7
Polyamide (PA)	NA	2	2	2
Cotton	NA	0.96	1	1
MMCF	NA	0.4	0.5	0.5

Source: own elaboration based on Textile Exchange (2020, 2021, 2022, 2023), DG GROW (2021b)

99% from PET bottles

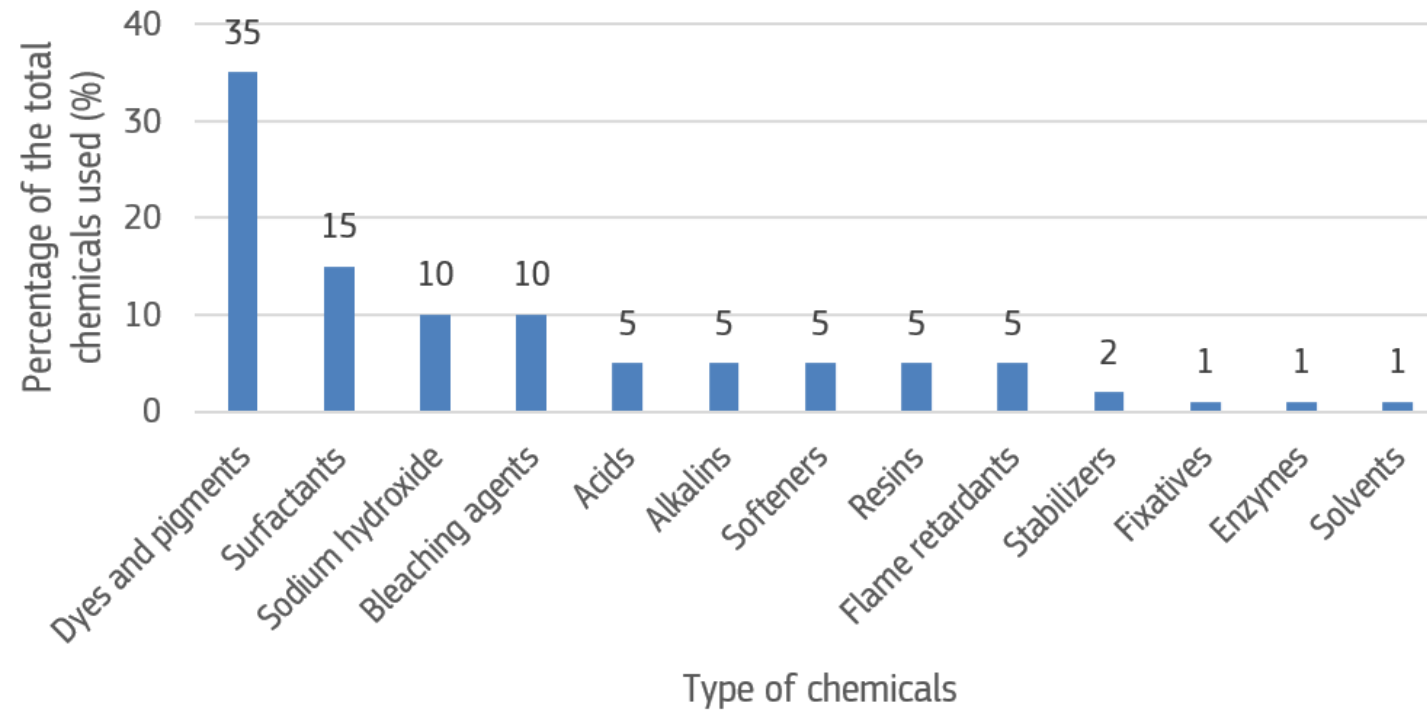
Estimated current number of textile recycling plants



Source: own elaboration based on Airtable - Sorting for Circularity - Recyclers Database, Jørgensen et al. (2022), and Textile Exchange (2022)

# Main elements of apparel textiles Chemicals

Share of the most commonly used chemicals in the textile industry

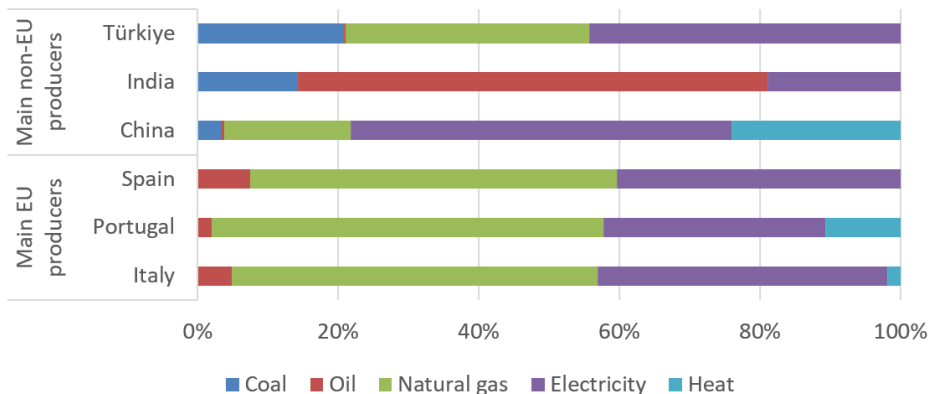




# Main elements of apparel textiles

## Energy and water

Energy balance of the textile and leather industries in 2021



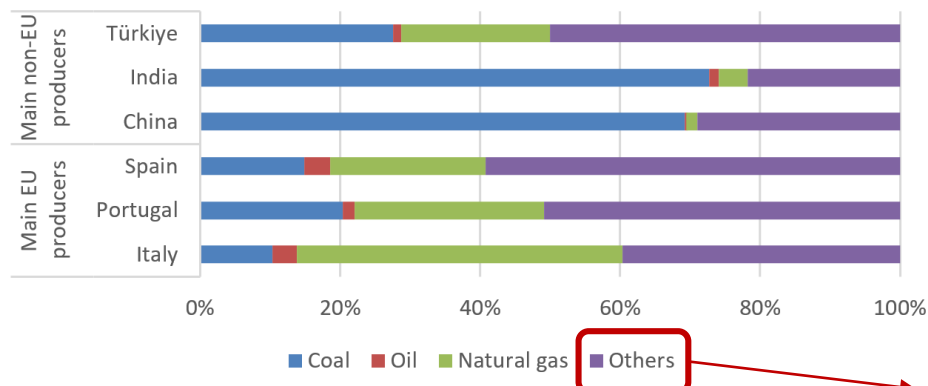
Source: own elaboration based on IEA World Energy Statistics and Balances

Water consumption of fibres

Fibre	Water consumption (l/kg of fibre)
Cotton	1 559
Hemp	2 123
Wool	530
Man-made cellulosic fibres	92
Polyester	51 – 71
Nylon (known as polyamide)	185 – 633
Polyethylene and polypropylene (PP)	47 – 32
Acrylic	210
Viscose rayon	640

Source: Muthu (2015, 2020) and Niinimäki et al. (2020)

Electricity generation by source



Source: own elaboration based on IEA (2019)

includes nuclear power, hydropower and renewable sources

# Market (1 of 2)

## Q&A

1. Do you agree with the current interpretation of the relationship between the reported **historical events** and the evolution over time of the **market indicators**?
2. In the last years, the **apparent consumption** of most of the apparel textile categories increased. Can you explain the different trend of the **categories 7 and 8** in Table 13?
3. Do you know what is the **composition of products** included in each category? E.g. 1. T-shirts: 30% made of only cotton, 60% made of polycotton (70% polyester and 30% cotton), 10% made of wool blend (60% wool and 40% polyamide).
4. Can you share a detailed **taxonomy of chemicals** used in the apparel textile sector with corresponding **market data**?
5. Where can we find the **price of water used at industrial scale** for producing countries?
6. Do you have any suggestion and data to **improve the market analysis** of fibres, chemicals, energy and water?

# Thank you for participating