



Sustainability in PPE: addressing the
challenges through standardization

18th March 2021 - 9:30 to 16:00

Welcome to the Breakout Session 1B: International views on sustainability and global resources!

We will start soon

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#Standards4PPE



@Standards4EU

Your moderators



Henk Vanhoutte

Chair, CEN-CENELEC PPE Sector Forum;
Secretary General, European Safety Federation
(ESF)



Dr. Karin Eufinger

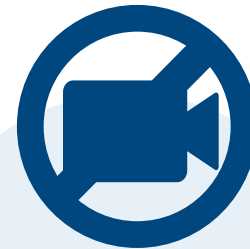
Coordinator NBN Sector Operator CENTEXBEL,
Convenor CEN/TC 248/WG 31



House Rules



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muted



Switch your
camera off



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#Standards4PPE



1B: International views on sustainability and global resources

Luo Muxia Beijing Municipal Institute of Labour Protection, China

Olof Kolte School of Industrial Design, Lund University

Vladimir I.KOTOV ASIZ, Russia

Hilde Færevik PhD, Senior Business Developer SINTEF Digital, Health Research, Norway

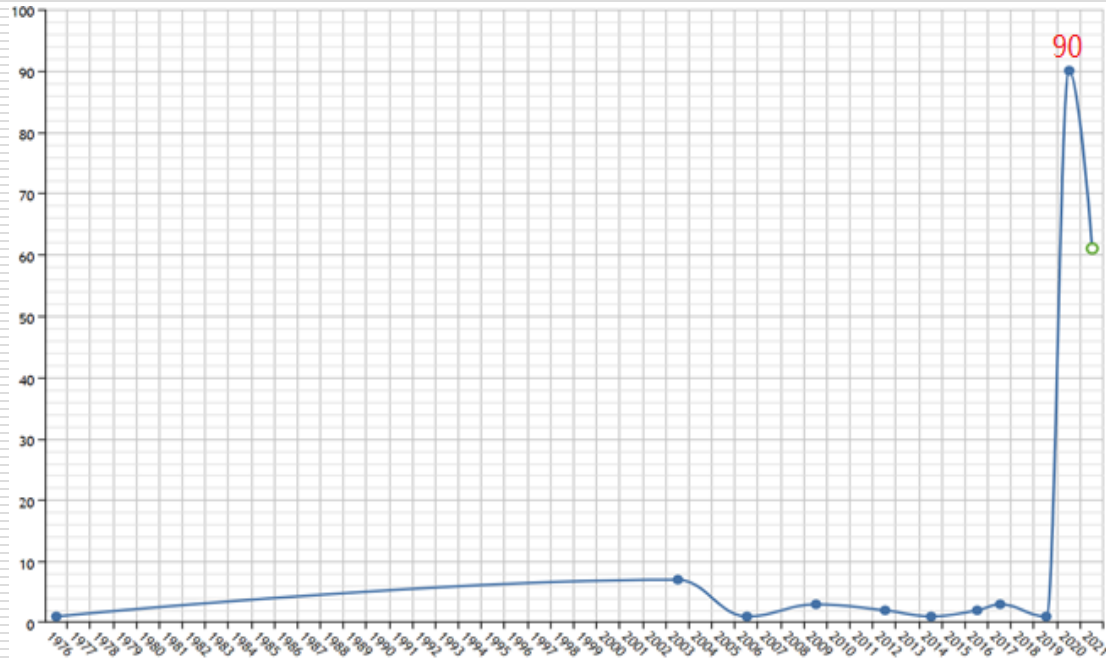


PPE sustainability-raising awareness and current China GB standards

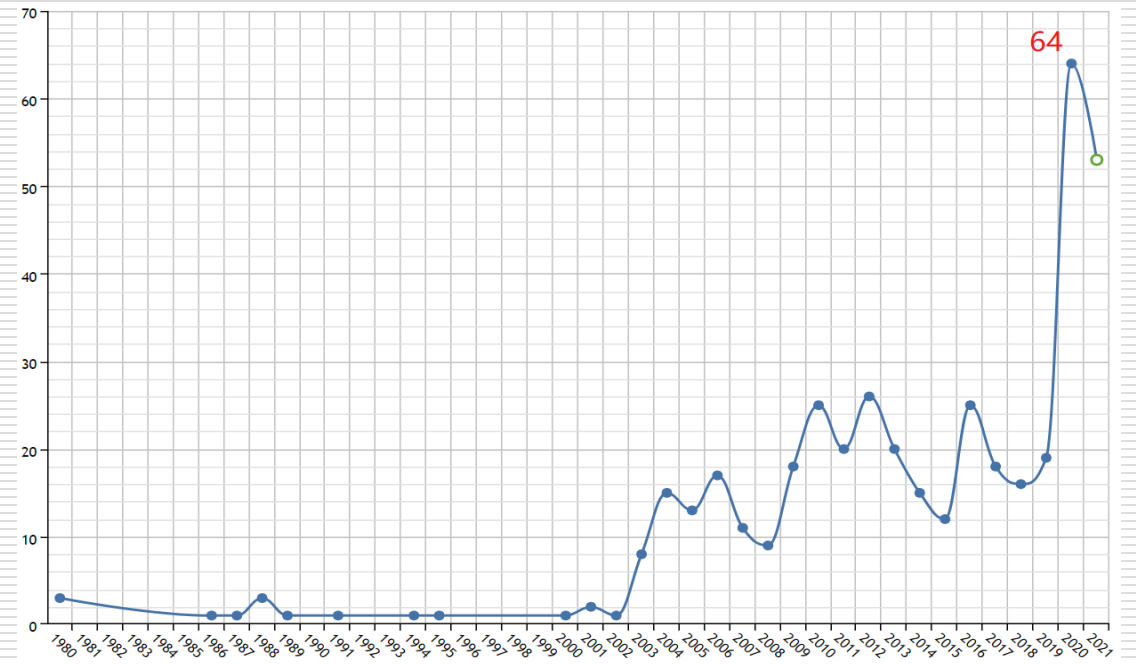
LuoMuxia

Beijing Municipal Institute of Labour Protection

Sustainability of PPE-raising awareness

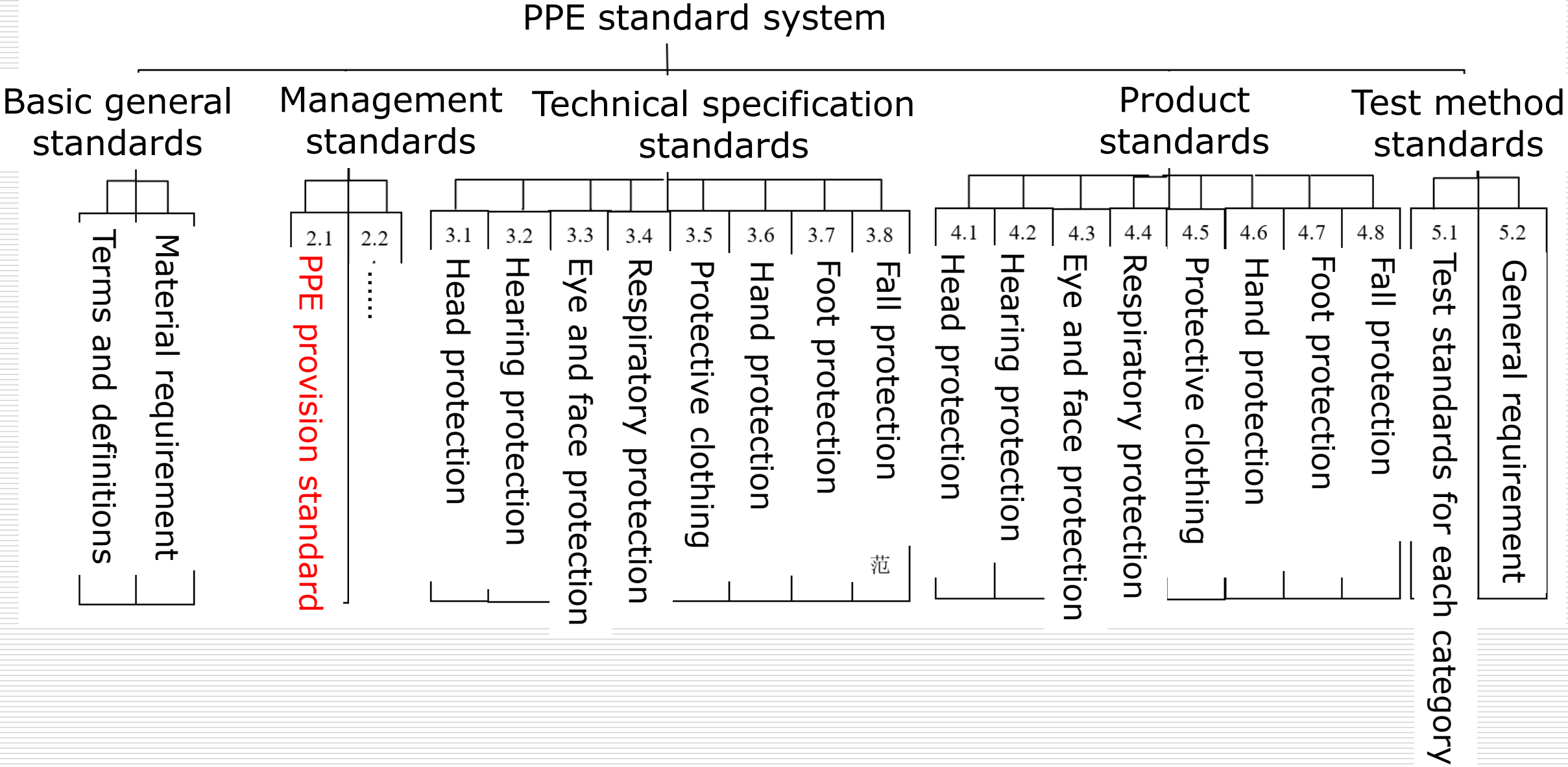


Number of research papers (by year) published on the topic of "reusable respirator" source: CNKI database



Number of research papers (by year) published on the topic of "protection, reusable" source: CNKI database

Current structure of China GB PPE standard system




GB standards and requirements relating to sustainability of PPE

- PPE provision standard(General)-framework of selection and procedure containing maintenance and checking of PPE (potentially reusable);
- PPE provision standards(by industry)-informative suggestion on longest duration of PPE usage;
- Requirement in product standards leads to design and manufacturer of reusable products- requirements that PPE meets protection criteria after cleaning, e.g. tests of performance for clothing and material after 50 times of cleaning for protective clothing against flame, etc.

Way Forward?

- Strengthen cooperation globally on research of environmental friendly material
- When suitable, through global joint effort, promote research on intelligent PPE which guides user on end of service life.



Sustainability in PPE: addressing the
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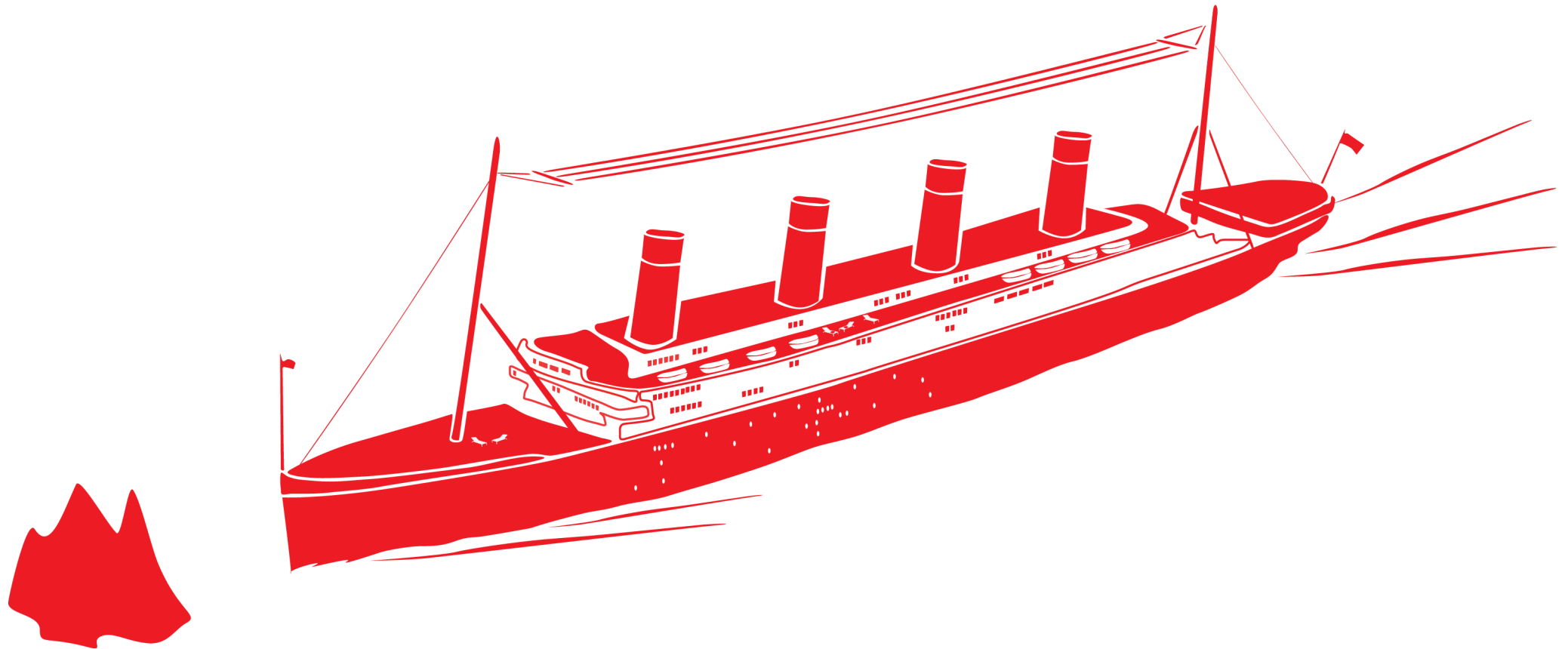
European Standardization Organizations

Designer, teacher and researcher with focus on local cyclic resource flows

Olof Kolte

School of Industrial Design, University of Lund

THE MODERN PROJECT

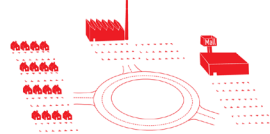


NOW

GLOBAL LINEAR RESOURCE FLOWS



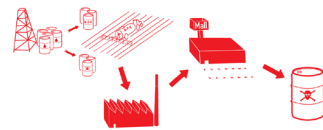
SEPARATION & SINGLE USE AREAS



INTERNAL COMBUSTION ENGINE MOBILITY



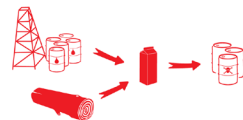
INDUSTRIAL FOOD CHAIN



DIGITAL SYSTEMS

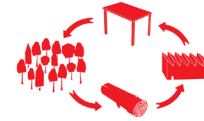


LINEAR PACKAGING SYSTEMS



CYCLIC PLANNING

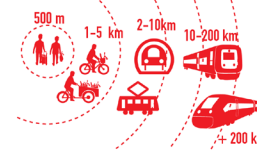
LOCAL CYCLIC RESOURCE FLOWS



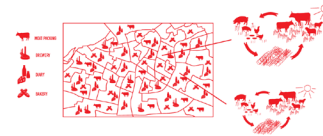
ACCESSIBILITY & DIVERSITY



SOFT MOBILITY REGIME



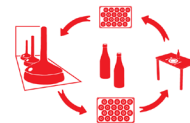
LOCAL CYCLIC FOOD CHAIN



ANALOGUE SYSTEMS, NO E-WASTE



CYCLIC PACKAGING SYSTEMS

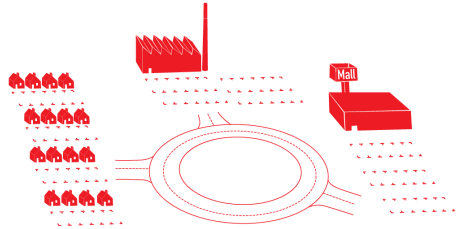


NOW

GLOBAL LINEAR RESOURCE FLOWS



SEPARATION & SINGLE USE AREAS



INTERNAL COMBUSTION ENGINE MOBILITY

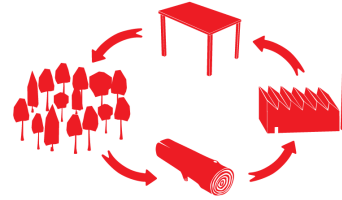


INDUSTRIAL FOOD CHAIN

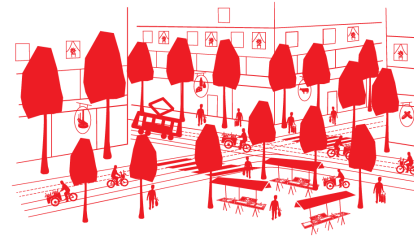


CYCLIC PLANNING

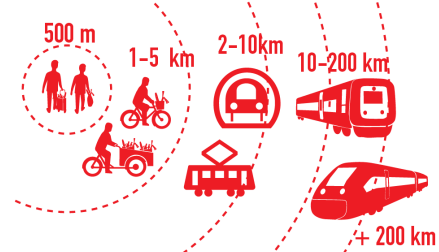
LOCAL CYCLIC RESOURCE FLOWS



ACCESSIBILITY & DIVERSITY



SOFT MOBILITY REGIME



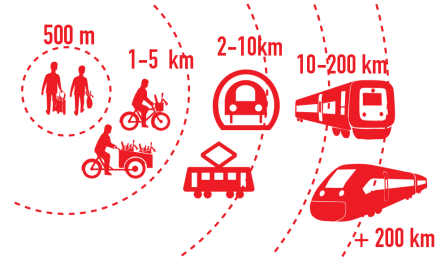
LOCAL CYCLIC FOOD CHAIN



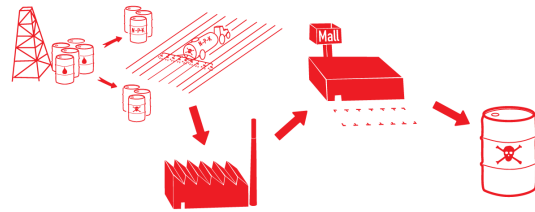
INTERNAL COMBUSTION ENGINE MOBILITY



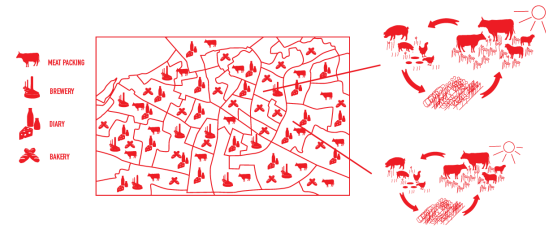
SOFT MOBILITY REGIME



INDUSTRIAL FOOD CHAIN



LOCAL CYCLIC FOOD CHAIN



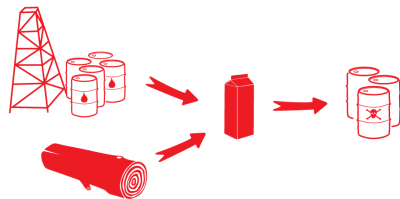
DIGITAL SYSTEMS



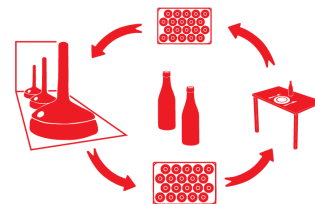
ANALOGUE SYSTEMS, NO E-WASTE



LINEAR PACKAGING SYSTEMS



CYCLIC PACKAGING SYSTEMS







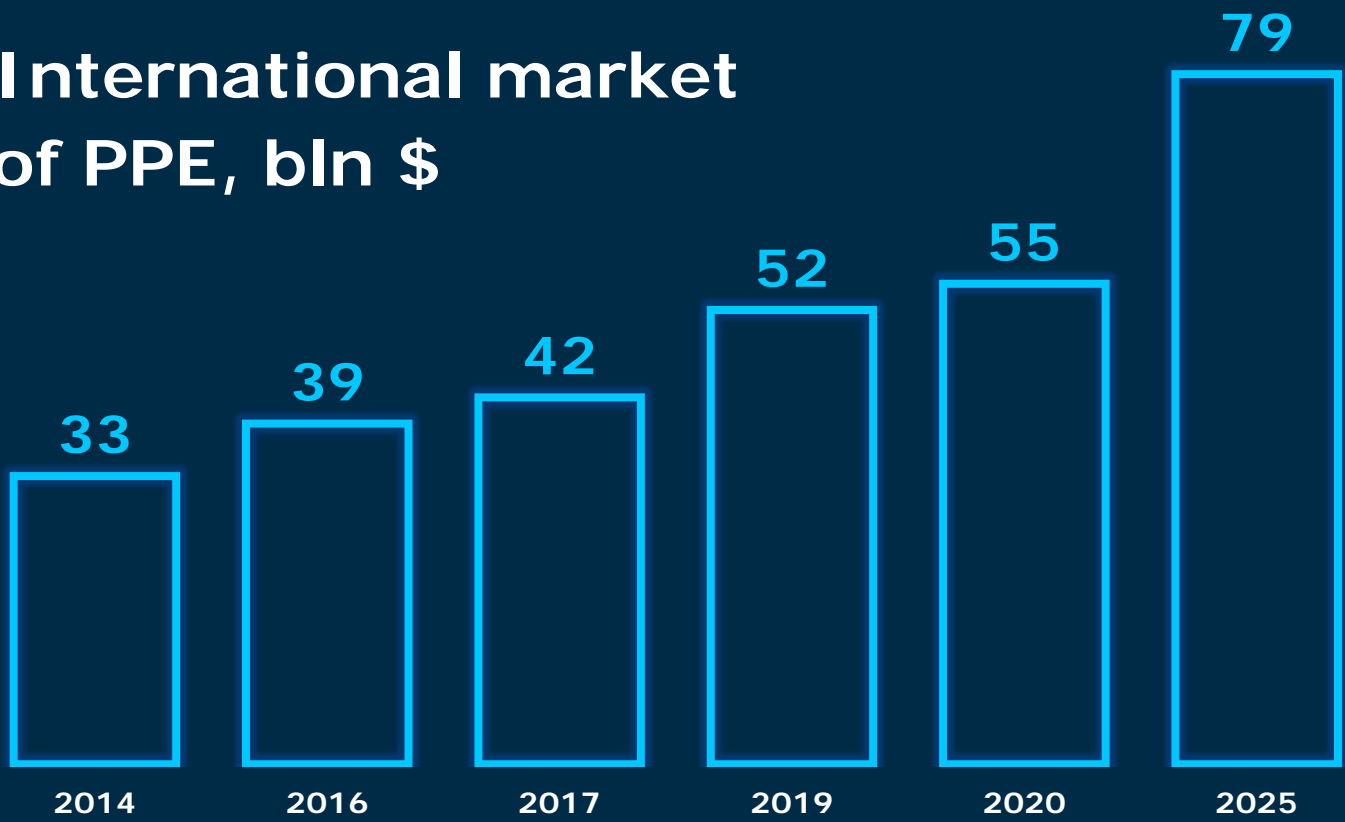
Quality control of PPE in Russia during the pandemic

CERTIFICATION SYSTEM



International market of PPE before COVID-19

International market of PPE, bln \$



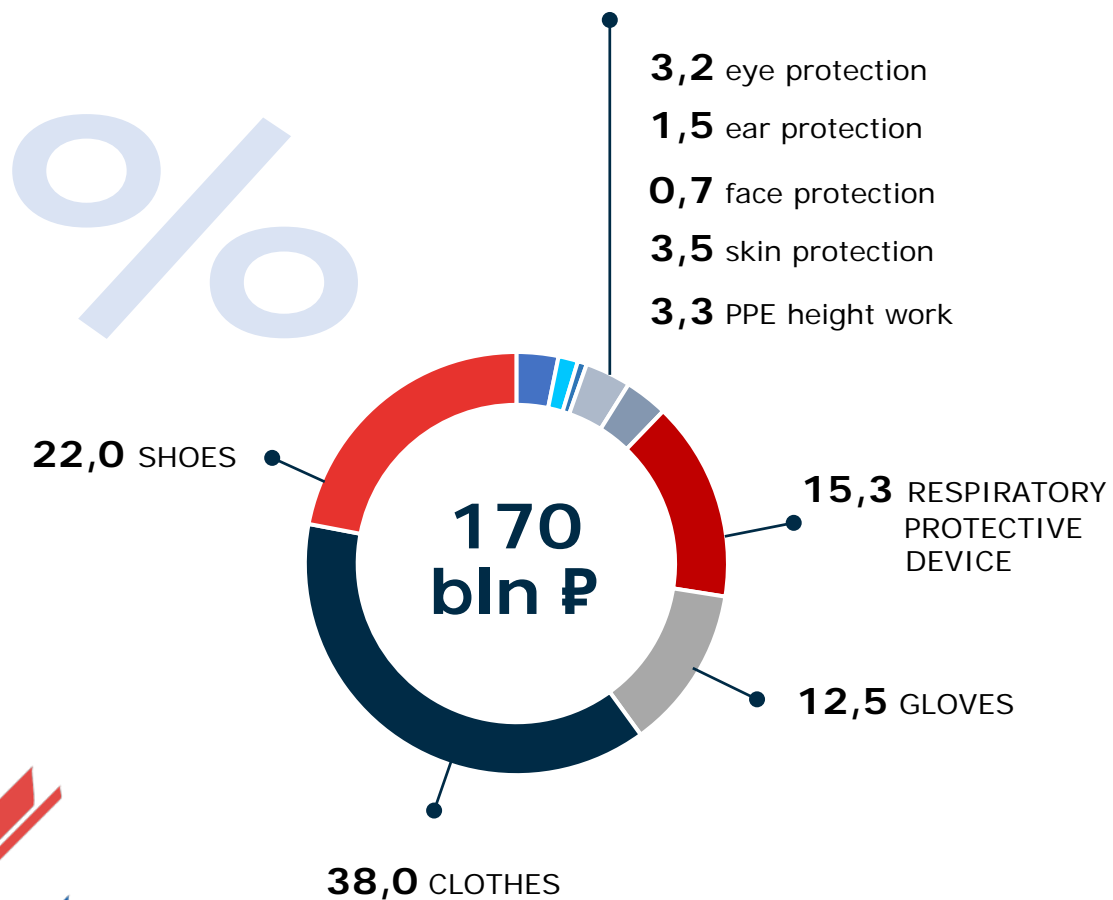
average annual growth

7-7,8%

2020-2025

ASIZ Function

Russian PPE market divided by product groups in 2019



Association of designers, manufacturers and suppliers of personal protective equipment (Association SIZ) represents through its member organizations

> 500 RUSSIAN ENTERPRISES,

with more than 100 thousand employees who are highly expertized in providing safe labour conditions for working people.

National quality infrastructure

TECHNICAL REGULATION

48 EAEU technical regulations

5,3 THND standards of TR EAEU

1

METROLOGY

1,5 BLN measuring devices
150 MLN measuring devices in the sphere of state regulation
112 394 models
36,2 MLN services per year

2

CONFORMITY ASSESSMENT

1,4 MLN certificates
103 MLN test reports
4,3 THND vehicle type approval

3

STANDARDIZATION

36 THND documents on standardization in the Fund
8,3 THND documents in XML format
1,3 THND standards approved for 2019

4

ACCREDITATION

>9 THND accredited persons
>800 certification authorities
6 THND test laboratories
782 THND items of laboratory equipment

5

STATE MONITORING

7,8 THND inspections
2,2 THND (28%) inspections with violations
205,9 MLN rub – imposed fines
6,3 THND metrological inspections
1,7 THND inspections with violations
72,9 MLN rub – imposed fines

COMMON ISSUES

- Paperwork
- Forgery of authorization documents
- Absence of traceability and feedback

National accreditation system

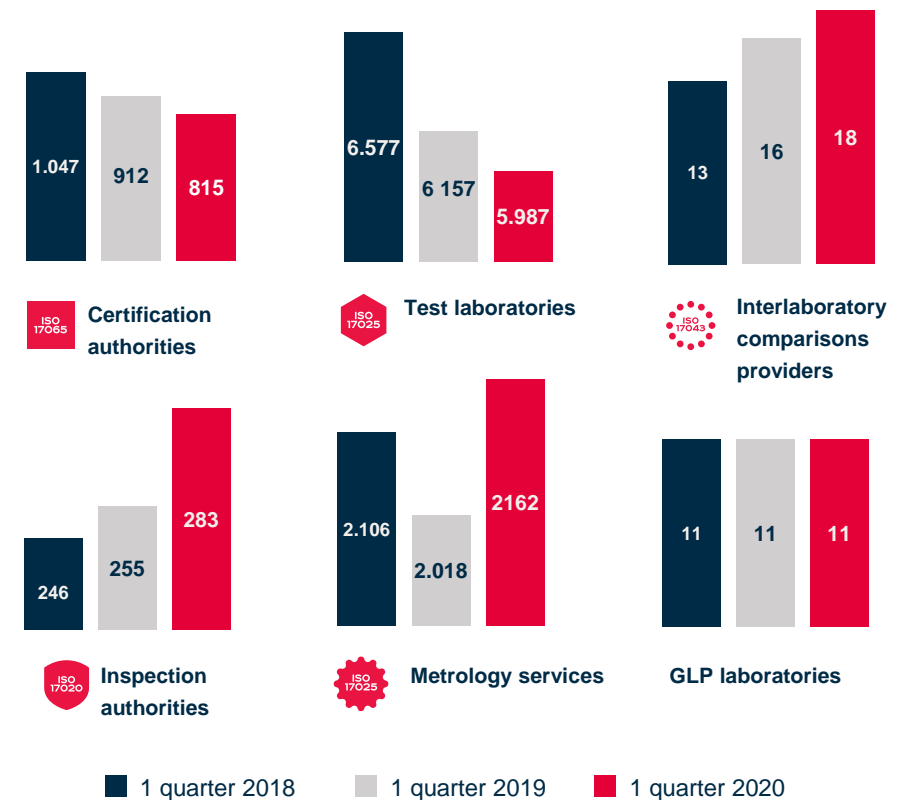
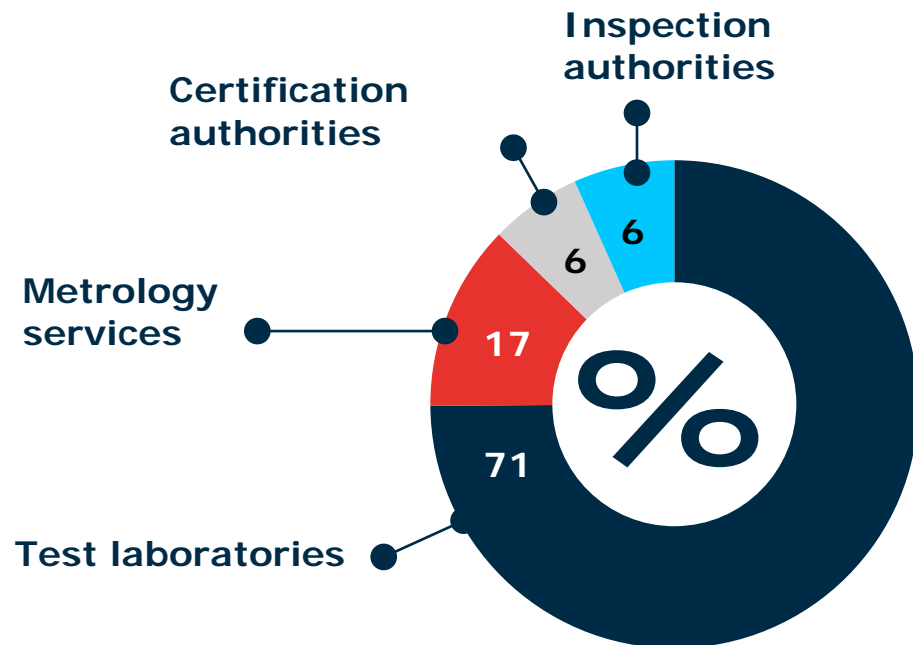
> 9 THND

ACCREDITED PERSONS
171 THND EMPLOYEES

743 THND
EQUIPMENT
ITEMS

96 THND
CERTIFICATES

20 MLN
TEST REPORTS



New federal act on state control and supervision

RISK-BASED APPROACH TO SUPERVISION

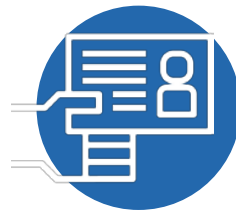


→ 3 NEW REGISTERS:

- Unified register of supervision types;
- Unified register of supervision events;
- Register of quality assurance statement.

New legislation on State and Municipal supervision in Russia Federation (Federal Law No. 248) takes effect on July 1, 2021

TECHNICAL REGULATION ELEMENTS



Accreditation
and conformity
assessment



Establishing product
characteristics
(standardization)



Unification of
measurement
(metrology)



State
supervision

Certification during pandemic

720

CONFORMITY
CERTIFICATES

ON COMMON PPE TYPES WERE GRANTED
JANUARY 2020 – FEBRUARY 2021

495

CERTIFICATES
local production

225

CERTIFICATES
import
production

240	Suits and gloves with low temperature protection, protective equipment against low temperature, wind
190	Special protective shoes of all types
71	Protective equipment against falls from a height
12	Body belts
263	Hydrophilic, hydrophobic, combined protective equipment, cleaning agents, regenerating agents
140	Particulate respiratory protective devices
80	Filter Self-Rescuers
33	Protective equipment against biological factors
124	Helmets and protective caps
30/30	Arc protective clothing / Face shields
119	Oil protection suits
117	Protective suits against sparks and molten metal spatter
34/34/34	Protective clothing against radioactive substances and ionizing radiation / Goggles / Ear protectors

Common violation of certification

Violation of the certification procedure, including violating some safety records while carrying out of tests and/or using the procedures not included in CU TR 019/2011

PPE indicators for hand protection against vibrations:

- must exclude contact of the hand with the vibrating surface;
- maximum thickness of the palm of the item with a protective pad (relaxed) must not exceed 8 mm;
- Stitches breaking load must be at least 250 H.
- vibration-absorptive materials must ensure vibration-absorptive properties, provided by the manufacturer, which shall not deteriorate in the event of loss of mechanical strength or displacement of these materials

Test methods for achieving compliance with the requirements of CU TR 019/2011

GOST 28073-89
paragraph 5.2 (table 4)
GOST 12.4.252-2013
GOST ISO 10819-2017 article [5.1](#)

GOST 12.4.002-97
пункты 4 - 9, Annex 1 (article 1.8)
GOST 12023-2003 (ISO 5084:1996)
GOST 28073-89

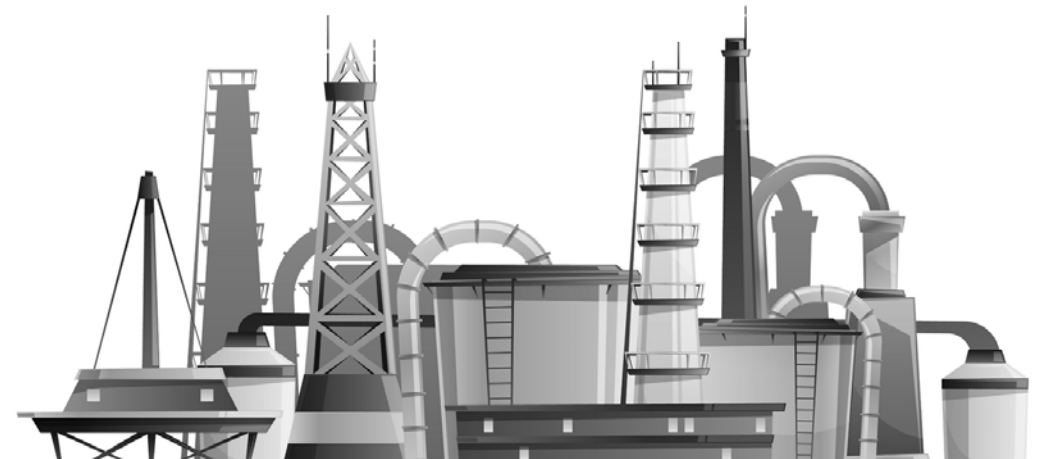
Substitution of 1C certification scheme to 5C, in the absence of documents on conformity certificates, failure or complexity in confirming compliance with the requirements when testing final product

Elements of certification scheme 1C

- sampling;
- analysis of production condition;
- sampling and/or analysis of production condition.

Elements of certification scheme 5C

- production project analysis.



Certificate issued by a different contracting authority.

The mayfly certification authority closes



Certificate did not enter in the Register of Accreditation of Federal State Information System.

The middleman who sold the service disappears



The Protocol is not entered in the Register or is not handed over, which means that it does not exist at all!

The Federal accreditation service suspends the validity of the certificate



The report is entered in the Register but violated the prescribed time limits for conducting the tests.

The manufacturer is left alone with this problem and ruined his reputation

Common violation of certification

Respirator masks filter protection class – P" - FFP mask can't have a filter because the frame of the mask is the filter itself.

Application section - respiratory protective device, which means that the item falls under CU TR 019/2011 and requires obligatory certification.

GOST 12.4 296 – 2015 applies to the filter respirators with insulating face in the form of half masks with anti-gas and anti-aerosol filters; anti-aerosol part marking P1, P2, P3, and not applicable to this type of product. FFP 2 and FFP 3 markings are established and defined by GOST 12.4.294-2015.



The size tolerances are indicated directly in the drawing and are not to be set separately.

Application section - №5. The respiratory mask should be changed not less than every 12 hours, every 2-5 shifts. The phrase is not very well drafted.

Marking section: according to GOST P 58396-219 on the mask must be indicated the standard and type: Type I or Type II

The information that FFP2 RD, FFP3 RD are just symbols is not valid and misleading to the consumer. The given designations indicate GOST 12.4.294-2015



BIOT – 2021

25th Anniversary International Specialised
Exhibition & Forum «Safety and Labour Protection»



Ministry of Labour
and Social Protection
of the Russian Federation



ASIZ



THANK YOU FOR ATTENTION!

For certification, standardization and questions on the matters of
occupational safety
please contact Association SIZ

+7 (495) 789-9-320

asiz@asiz.ru



70 år

1950-2020

SUSTAINABILITY AND GLOBAL RESOURCES IN THE TEXTILE INDUSTRY - TESTIMONIES FROM NORWAY

Hilde Færevik, PhD, Senior Business Developer, SINTEF Digital, Health Research

CEN/PPE CONFERENCE SUSTAINABILITY IN PPE: ADDRESSING CHALLENGES THROUGH STANDARDIZATION 18TH MARCH



Norwegian textile industry

- Polar explorers a long tradition of techniques of polar travel and innovations in equipment and clothing formed the textile industry in Norway
- Warm and durable materials for all kinds of weather have been essential in the development of Norwegian clothing and fashion design
- [Helly Hansen](#), who since 1877 has provided protective waterproof gear for fishermen and workers, has also broken into the sports and streetwear markets by combining innovative materials with modern, stylish designs
- Norway began industrial textile manufacturing in the mid-1800s
- Mid-1900 – manufacturing was moved abroad
- Today, textile industry main source is import from non- OECD, especially Asian countries

Is Norwegian textile industry sustainable?



If the rest of the world consumed like Norwegians
we would need 3.4 globes to live on



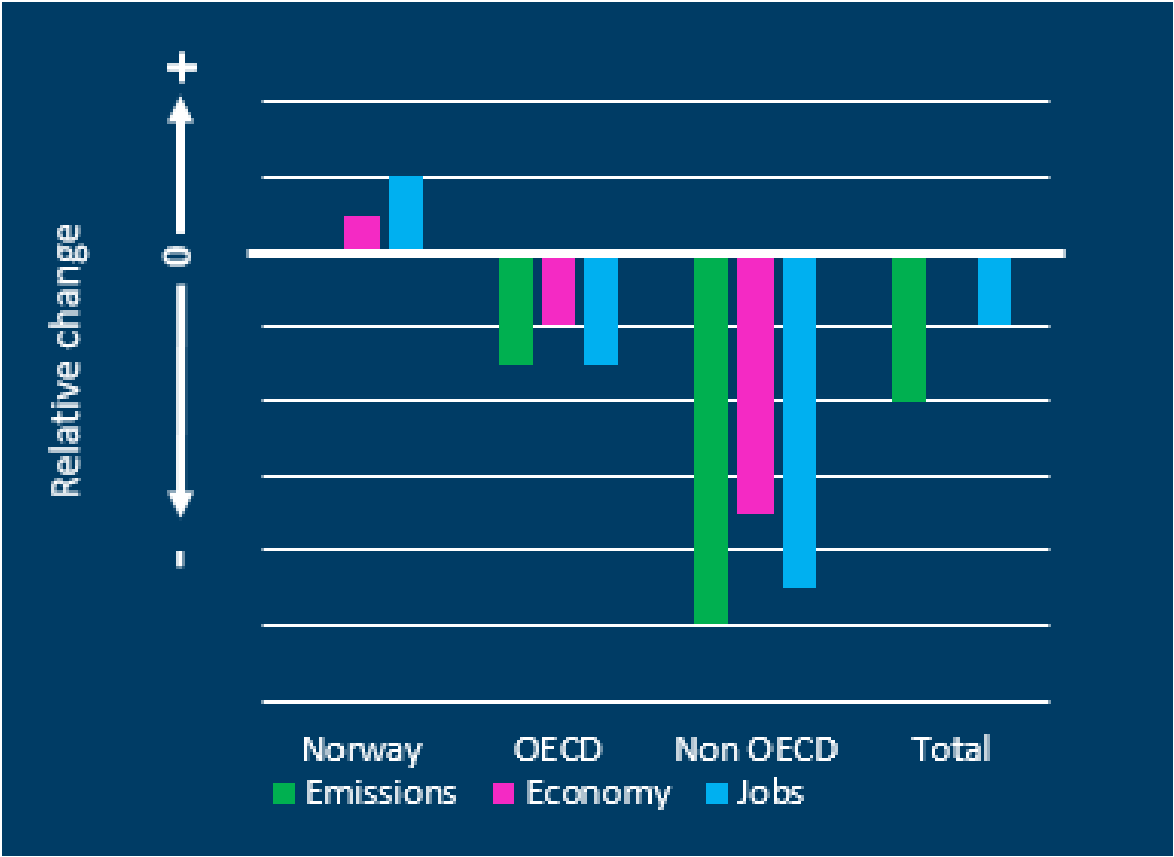
The market characteristics – textiles Norway

- Doubling of clothing sales in the last 15 years
- Trend for 'fast' or 'throw away' fashion, clothes are worn 36% less now after the same 15-year period
- Less than 1% of clothing is recycled, representing a loss of over \$100 billion globally each year
- Each Norwegian purchases 15 kg clothing and disposes of 8-10 kg, totaling 40-50 tonn textile waste each year in Norway from consumers
- Poor decision support in the textile supply chain and designed obsolescence result in large over production with 30% of all garments never meeting the consumer

The future - a sustainable textile industry in Norway

- New business models and companies are appearing as a reaction to fast fashion and large volume production
- Circular economy models for the textile industry
- Reduced climate gas emissions - household
- Improved quality, rather than import
- Redesign, "repair and share" culture
- New jobs
- Changes in tax system
- Digitalization for improved logistics and easy repair and share options
- The Nordic textile reuse and recycling commitment – a certification system for used textiles and textile waste

Norwegian circular consumption will have global impacts





SINTEF

Technology for a
better society

Discussion



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➔ Rank your favourite question! ➔

What's next?

13:15 - 15:15

Showcase of developments, experiences and concerns with standards

13:15 - 14:10

1A: General aspects and business models

1B: International views on sustainability and global resources

1C: Procurement and user needs

Change of sessions

14:20 - 15:15

2A: Design of garments facilitating repair, maintenance and recycling

2B: Choices and recycling of materials

2C: Experiences with different types of PPE



Please check your confirmation email for your choice of parallel session 2



Links to rooms will be published in the chat. Make sure to close this room before moving to the next

See you at the next session. Thank you!

