Webinar on Standards for fostering Resource Efficiency and Circular Economy in India

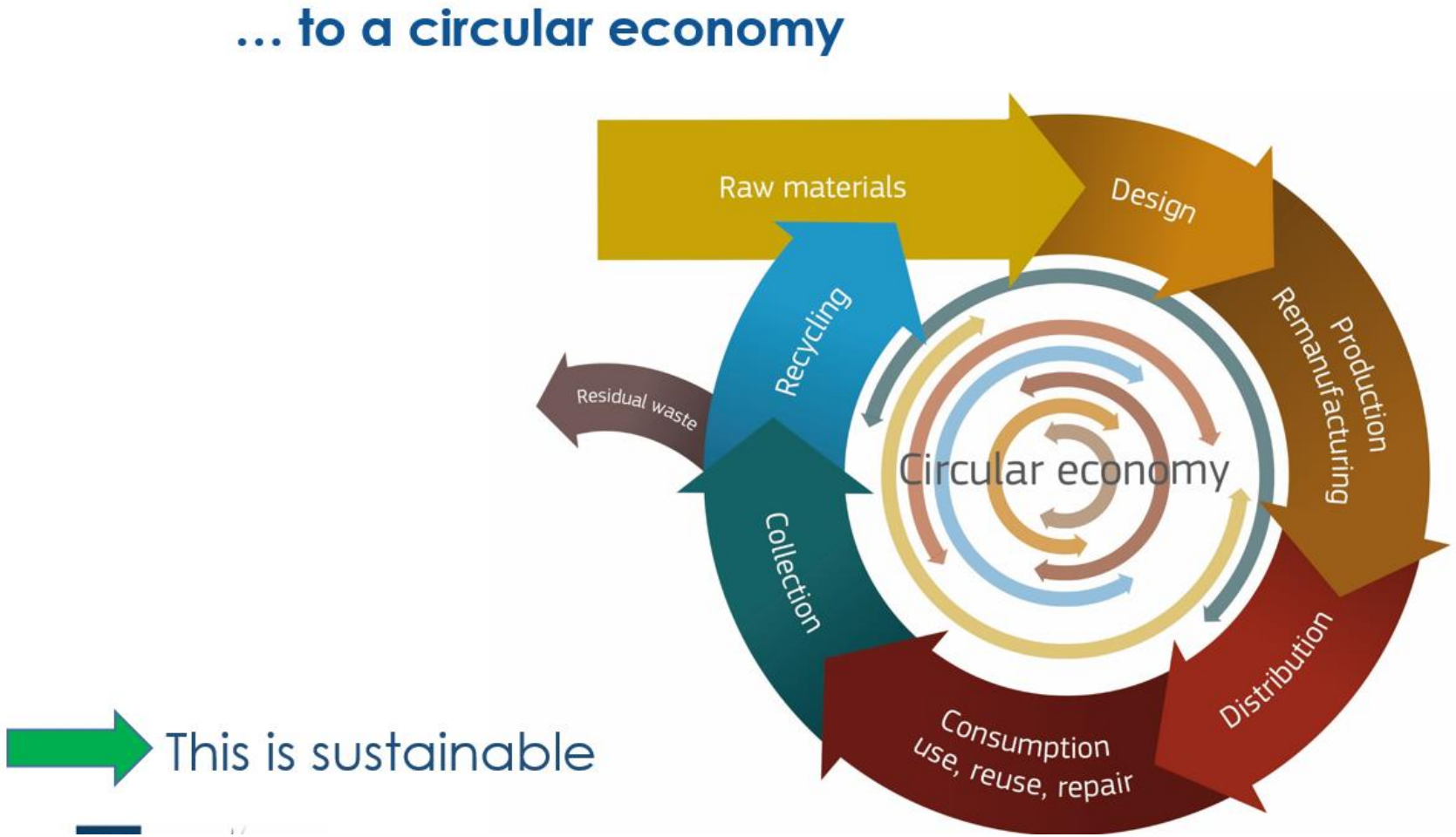
- **Experiences from the EU in adoption of these standards and implementation challenges**

Standardization Policy on Circular Economy

From a linear economy …

This is unsustainable

Standardization Policy on Circular Economy



European Standards are essential tools to support the transition to a Circular Economy

Better product design - Background

- Lack of ecodesign requirements related to material efficiency in the implementing measures adopted so far due to the absence of adequate metrics
- Therefore, absence of standards for assessing material efficiency aspects identified in previous product specific Ecodesign implementing measures
- availability of generic standards, would facilitate discussion on potential requirements related to material efficiency aspects in future product-specific implementing measures adopted under Directive 2009/125/EC

Better product design – M/543

- Issued by the Commission on 17.12.2015
- Requests standards to support ecodesign requirements on material efficiency aspects for energy-related products under 2009/125/EC → Existing requirements under Ecodesign (and Energy Labelling) provisions were focused on reducing energy consumption
- Addressed to (and accepted by) all three European Standards Organizations, CEN, CENELEC & ETSI → CEN and CENELEC accepted M/543 in January 2016
- Deliverables be "**general in nature**" and cover the following material efficiency aspects:
  - Extending product lifetime;
  - Ability to re-use components or recycle materials from products at end-of-life;
  - Use of re-used components and/or recycled materials in products.

Better product design – CEN-CLC/JTC 10

- CEN-CENELEC/JTC 10 ‘Energy-related products – Material Efficiency Aspects for Ecodesign’ was established in response to M/543
- Joint CEN-CENELEC technical committee formed as legislative requirements cover both electrotechnical and non-electrotechnical products in line with Ecodesign Directive

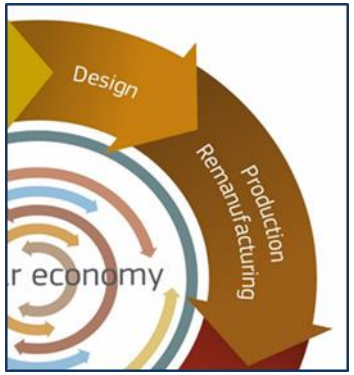
CEN/CLC/JTC 10 Published Standards	
Reference	**Title**
EN 45558:2019	General method to declare the use of critical raw materials in energy-related products
EN 45552:2020	General method for the assessment of the durability of energy-related products
EN 45557:2020	General method for assessing the proportion of recycled material content in energy-related products
EN 45556:2019	General method for assessing the proportion of reused components in energy-related products
EN 45559:2019	Methods for providing information relating to material efficiency aspects of energy-related products
EN 45554:2020	General methods for the assessment of the ability to repair, reuse and upgrade energy-related products
EN 45555:2019	General methods for assessing the recyclability and recoverability of energy-related products

Efficient production processes

Efficient production covers

- Raw materials (primary and secondary raw materials)
- Resources (efficient energy, natural resources use)
- Close to zero emissions (pollutants, waste)
- Innovative industrial processes

- ✓ CEN WS TOP-REF ‘Methodology for Improving the Resource Efficiency of Energy Intensive Industrial Processes’
- ✓ EN Standards on biofuels, solar and wind energy; Energy audit for companies (EN 16247 series)
- ✓ EN standard for waste characterisation, EN 50625 series on Collection, logistics & treatment requirements for WEEE (Waste Electrical & Electronic Equipment)
- ✓ Measurement standards for environmental matrices
- ✓ Uptake of EU research and innovative project results



CEN-CENELEC Sector Forum 'Energy Management‘
CEN strategic Advisory Body for Environment

Consumer information

Creating market by influencing consumer choices:

- create basis for informed choices
- building consumers' trust
- increased demand for reused and recycled products/materials

✓ Energy labelling - a dozen CEN and CENELEC Technical Committees develop European Standards in the field of energy labelling (eg. air conditioning, dishwashers, ovens, lamps, refrigerators, vacuum cleaners, washing machines)

✓ Fuel labelling –harmonized information on the compatibility between vehicles and the fuels available in filling stations and on the deployment of alternative fuels infrastructure (EN 16942 'Fuels - Identification of vehicle compatibility - Graphical expression for consumer information').

✓ Behaviour change – new standardization activity

Waste and secondary raw materials

Higher level of material recovery is needed (secondary raw materials, recycling, recovery and reuse)

- ✓ EN 50625 series on collection, logistics & treatment requirements for WEEE (Waste Electrical & Electronic Equipment) – *see brochure*
- ✓ CEN/TC 343 standards on solid recovered fuels for energy recovery in waste-incineration or co-incineration plants
- ✓ CEN/TC 261- standards on biodegradability of packaging materials (EN 13427 to 13432 on reuse and recycling of packaging)
- ✓ CEN/TC 249 standards on characterization of plastics recyclates
- ✓ CEN/TS 14243, CEN/TS 16916, CEN/TS 17045 on materials produced from end of life tyres
- In the pipeline: Standards for the development of sustainable chemicals from primary and secondary raw materials and standards for phosphorus recycling/recovery from wastewater, plastics and micro-plastics in the environment, batteries design and recycling; EC draft request: mapping standards related to Treatment of Waste and Quality of Secondary Raw Materials

Priority sectors

More sustainable approach in EU priority sectors (Plastics, critical raw materials, construction and demolition waste, biomass and bio-based products, food waste)

- ✓ Plastics - CEN/TC 249 - ‘Plastics’ - Standards on biodegradability of plastic materials
- ✓ TS 50625-5: Collection, logistics & treatment requirements for WEEE -- Part 5: Specification for the end-processing of WEEE fractions- copper and precious metals
- ✓ Construction - 12 European Standards on sustainability of construction works
- ✓ Biomass and bio-based products - EN 16760 on LCA of bio-based products and EN 16751 on sustainability of bio-based products;
- ✓ CEN/TC 454 ‘Algae and algae products

EU- Best Practices

Best Practices

- **EU launched in 2011 a Roadmap to a Resource Efficient Europe**
  - It outlines how we can transform Europe's economy into a sustainable one by 2050.
  - It proposes ways to increase resource productivity and decouple economic growth from resource use and its environmental impact.
  - It illustrates how policies interrelate and build on each other. (**Click here for more details**)

- **European Commission adopted its Circular Economy package in December 2015**, consisting on legislative proposals on waste and an action plan covering the whole life of products and materials.
  - It is closely linked with the energy and climate policies and it contributes to the implementation of the Agenda 2030 on sustainable development adopted by the United Nations in September 2015.
  - EU is also very much supporting the IRP by providing technical expertise, dissemination of the results of the studies elaborated by members of the IRP. (**click here for more details**)

Best Practices

- **In May 2018, EU Council approved the EU's Circular Economy Package (CEP)**
  - New legislation makes it obligator for EU member states to reach a 55% municipal recycling rate by 2025, 60% by 2035.
  - Targets for packaging for 2030 are also included and specifies 70% for all packaging, 55% for plastics, 30% for wood, 80% for ferrous metals, 60% for aluminium, 75% for glass, and 85% for paper and cardboard.
  - In addition to these targets, member states are expected to set up by 2025 separate collection systems for textile waste and hazardous waste from households and until December 2023 to ensure that bio-waste is collected separately or recycled at source.

- In March, 2020, European Commission adopted **"Circular Economy Action Plan 2.0"** - one of the main building blocks of the **European Green Deal**, Europe's new agenda for sustainable growth.
  - detailed plan is designed to refocus the economy and society based on "reuse, repair and recycling" in order to consume less resources. (**Read more**)

CEN-CENELEC approach

The influence of Circular economy on standardization

- Standardization took a more horizontal approach (more demand for horizontal standards)
- Closer cooperation is needed among the sectors (eg. the communication between the recycling sector and the production sector on the design and use of materials improved)
- Broad involvement and exchanges with stakeholders (industry, SMEs, societal stakeholders, policy makers) helps identify the needs

➢ Further improvement of the cross sectorial and more strategic coordination of circular economy-related standardization is necessary

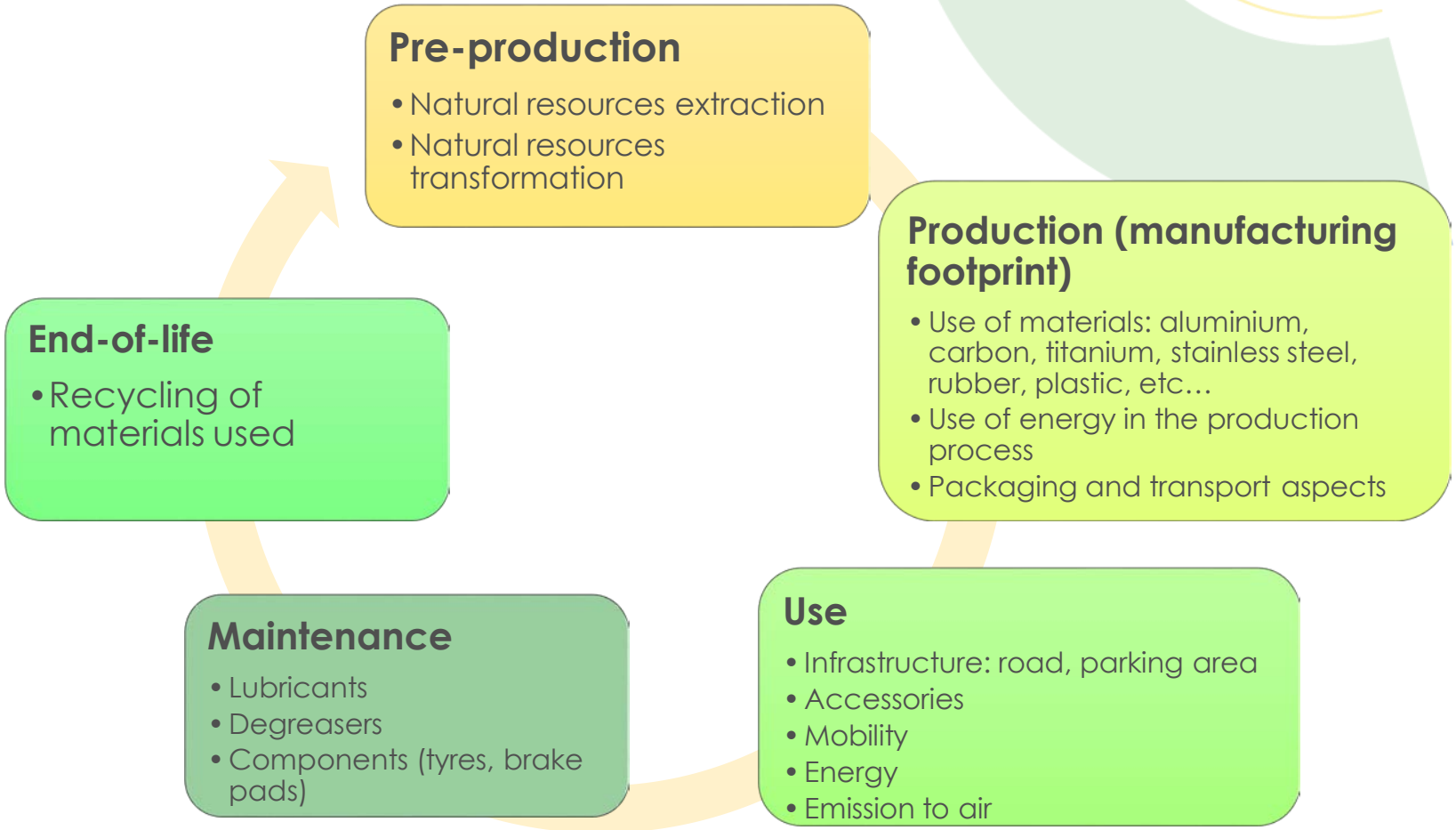
How to cover gaps

- Uptake of EU research and innovative project results
- Cross fertilization- enhance synergies
- Use of (CEN and CENELEC) international network
- Legislator to further support, promote and incentivize reused or recyclable product markets
- Ongoing pre-standardization work (Exp.)
  - Standards for the development of sustainable chemical from primary and secondary raw materials
  - Standards for phosphorus recycling/recovery from wastewater
  - Plastics and micro-plastic in the environment
  - Batteries design and recycling

Circular approach in standard development

- The circular thinking is NOT new to standard writers
- Training on environmental aspects → life cycle thinking

An example for a product:
Life cycle thinking - life cycle of a bicycle



Environment and life cycle thinking – Recommendations to TCs

- **Start early** in the development or revision process
- Define **priorities**
- Use a **life-cycle approach**
- Use **tools**
  - CEN Guide 4 and CEN-CLC Guide 33, environmental framework , contact Environmental Helpdesk, do the e- learning course
- Involve external **expert**
- **Collect data** to identify product environmental aspects & impacts
- Consider **principles** such as resource efficiency , prevention of pollution, minimization of environmental risks, accidents, Precautionary principle at all stages of the life cycle

Life cycle thinking and standards

Difficulties/Challenges:

- Standards are not only product standards
- Standards do not cover the whole life cycle or a product, service, testing
- Life cycle thinking does not apply to the standardization subject

Conclusion

Research

Innovation

Standardization

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