

# EUCIA, Raphaël Pleynet

Managing Director of the European Composites Industry Association

More than 30 years of experience in the global composites and technical textiles industries, gained through senior management roles in international business.

EuCIA represents European national composites associations and industry-specific sector groups at EU level.

Responsibilities: directing EuCIA's day-to-day operations, developing strategic partnerships and initiatives, and uniting the expertise of EuCIA's members to support the sustainable growth of the European composites industry.



# Mission of EuCIA, and Circularity of Composites :

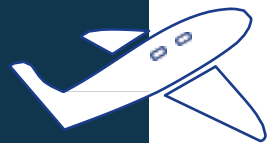


**MUOVITEOLLISUUS RY**  
Finnish Plastics Industries Federation

**Hyvinkää, October 12th, 2023**



# Agenda



**EuCIA's vision, mission and main goals**



**Active role in composites sustainability**



**Circularity of composites**



## EuCIA in a few words



### **Vision statement :**

EuCIA is the unified voice of the European composites sector representing the entire composites value chain, consisting of national and industry associations.

### **Mission statement :**

We support the sustainable growth of the composites industry and promote the development of a flourishing business environment, taking advantage of the combined expertise of EuCIA's members.



# Our Members & Partners

## National Associations



## Sectorial Organisations.



## Sponsors



## Partner



# Our Goals

## 1 Position

Explain and promote the contribution of composites and the composites industry to European society

## 2 Advocate

Provide expertise to support decision makers on defining EU standards and legislation

## 3 Facilitate

Support the growth of composites industry in creating a sustainable business environment in Europe

## 4 Educate

Support the education of designers, engineers and students in understanding the benefits of using composite materials

## 5 Network

Provide a platform for EuCIA's members for networking and sharing experience



# Active role in composites sustainability

- Promote the contribution of composite materials in helping to achieve net zero targets
  - Explain, illustrate the reasons for the growing penetration of composite materials in various markets.
- Demonstrate circularity of composites



# Composites are instrumental for transition to a climate-neutral economy

- Efficient **green energy** generation in wind turbines
- **Lightweight** and aerodynamics for low fuel consumption in cars and aircraft
- **Low maintenance** in buildings, infrastructure
- **Renovation** of sewers and pipelines with minimal environmental impact
- **Operational continuity** in installations for drinking water generation and industrial processing
- **Strong** and lightweight solutions for hydrogen storage tanks





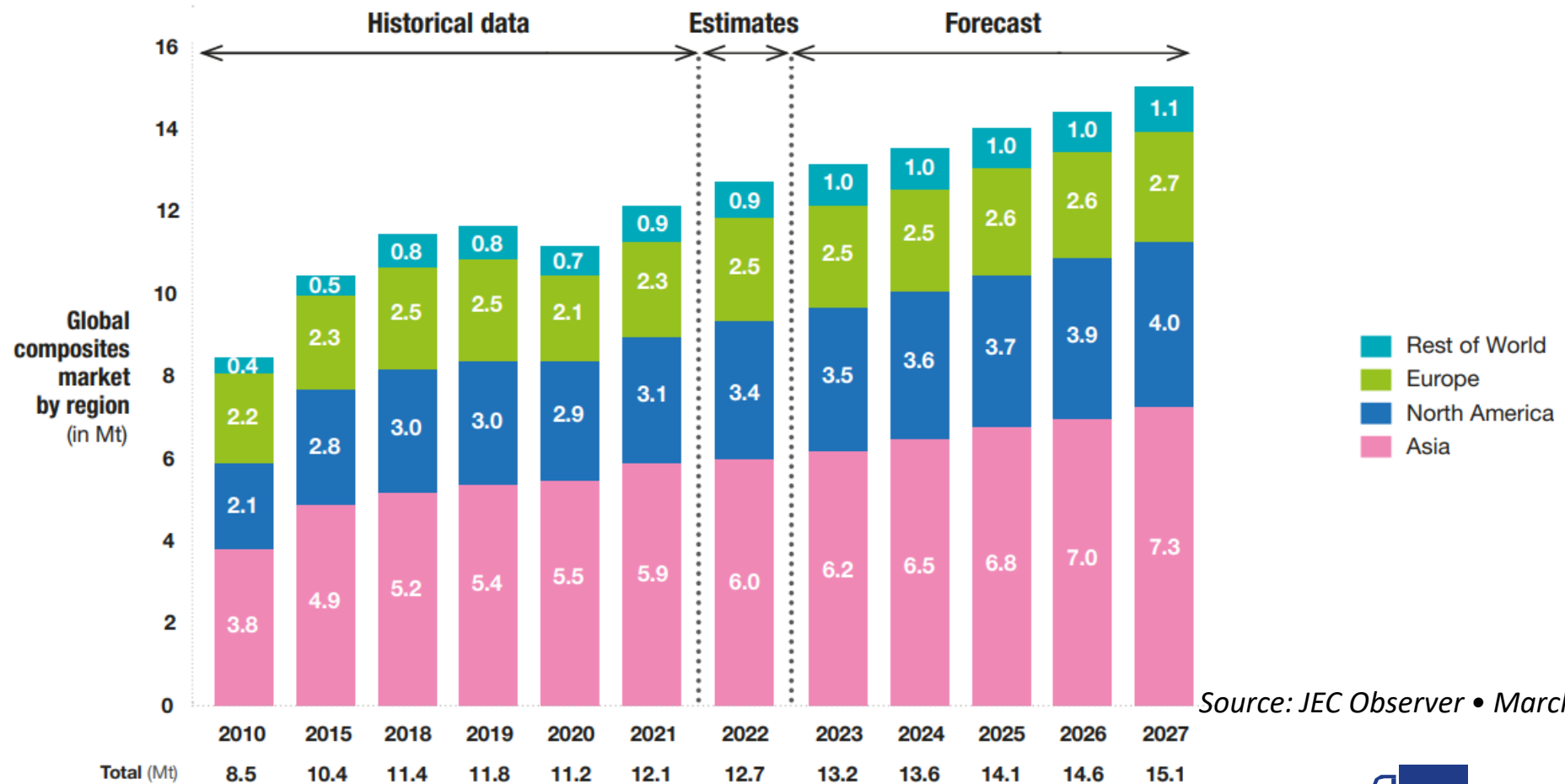
# Composites are instrumental for transition to a climate-neutral economy



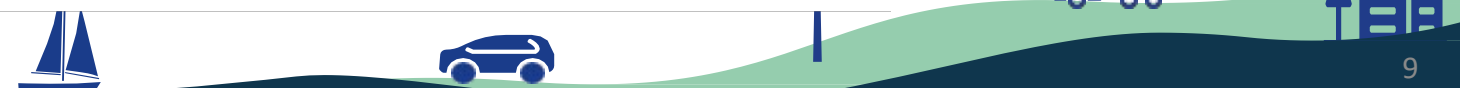
# Global market outlook for composites very positive

## Europe – 19% market share in volume & 26% in value

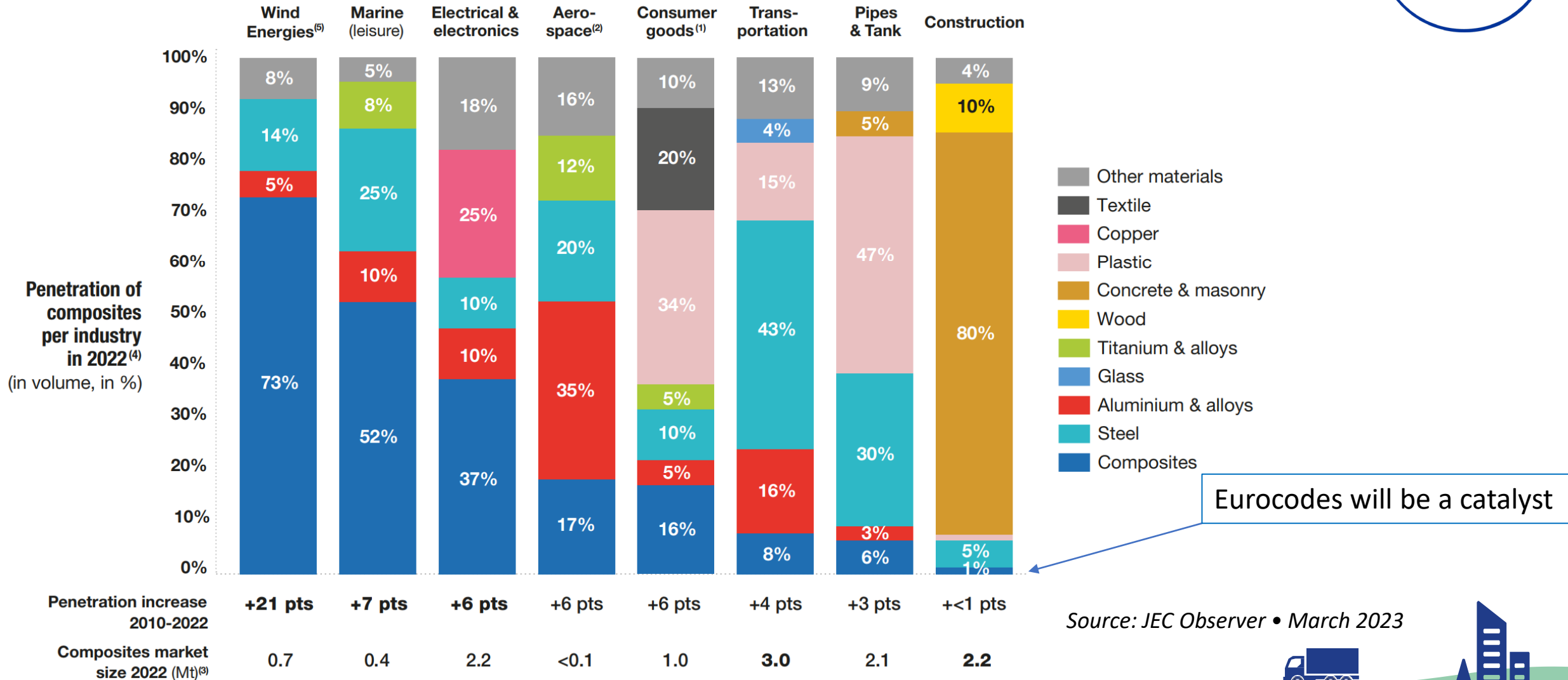
World - Perspective of applications markets of composite materials - 2010-27 - Volume



Source: JEC Observer • March 2023



# Penetration of Composites per market



Eurocodes will be a catalyst

# Active role in composites sustainability : Demonstrating circularity of composites

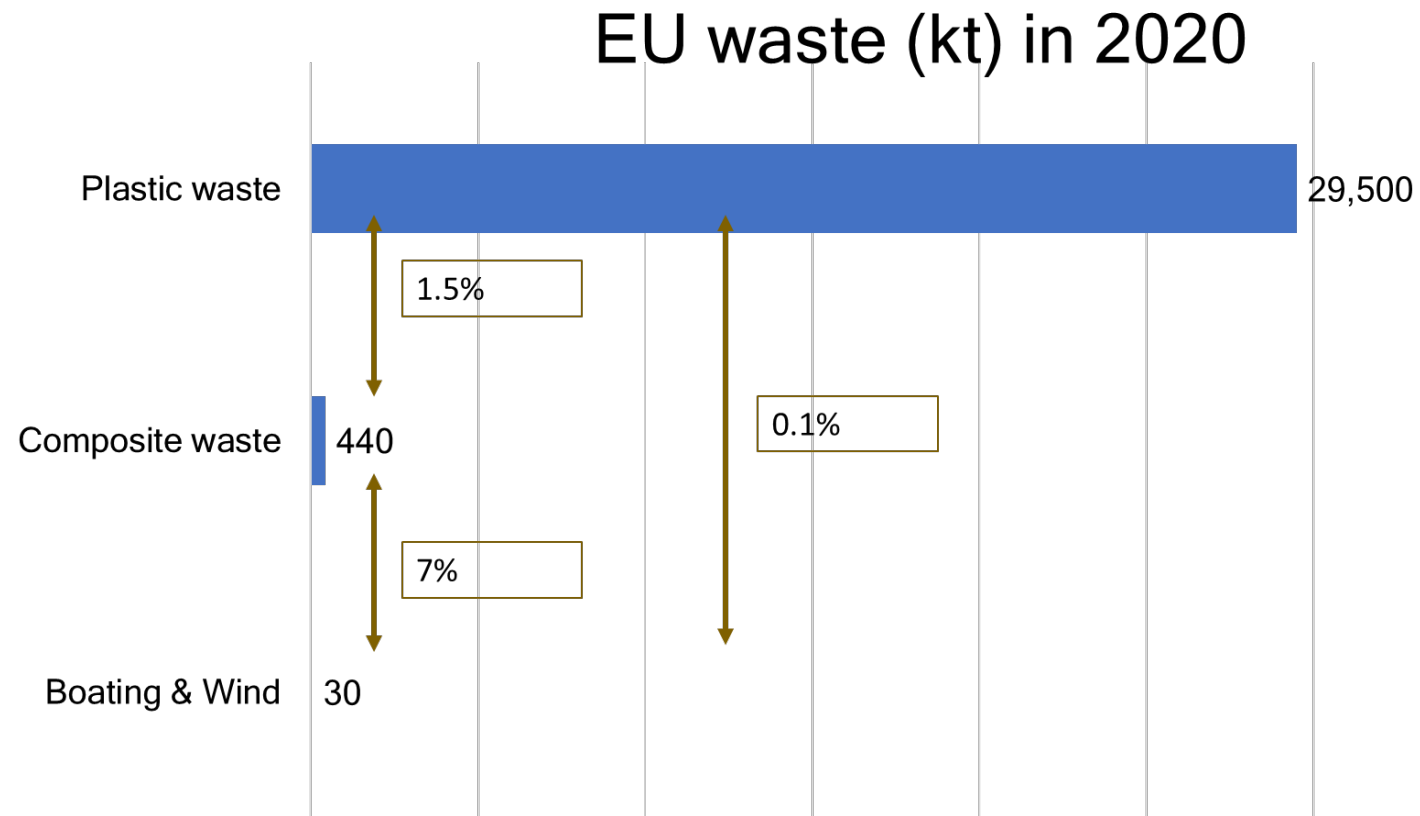
- Contribute to EU regulations and standards
- Generate data ( LCA , Waste volume, ..)
- Participate in EU projects : Ex :
- Identify recycling technologies
- Set-up coalition with other industry associations to lobby EU authorities



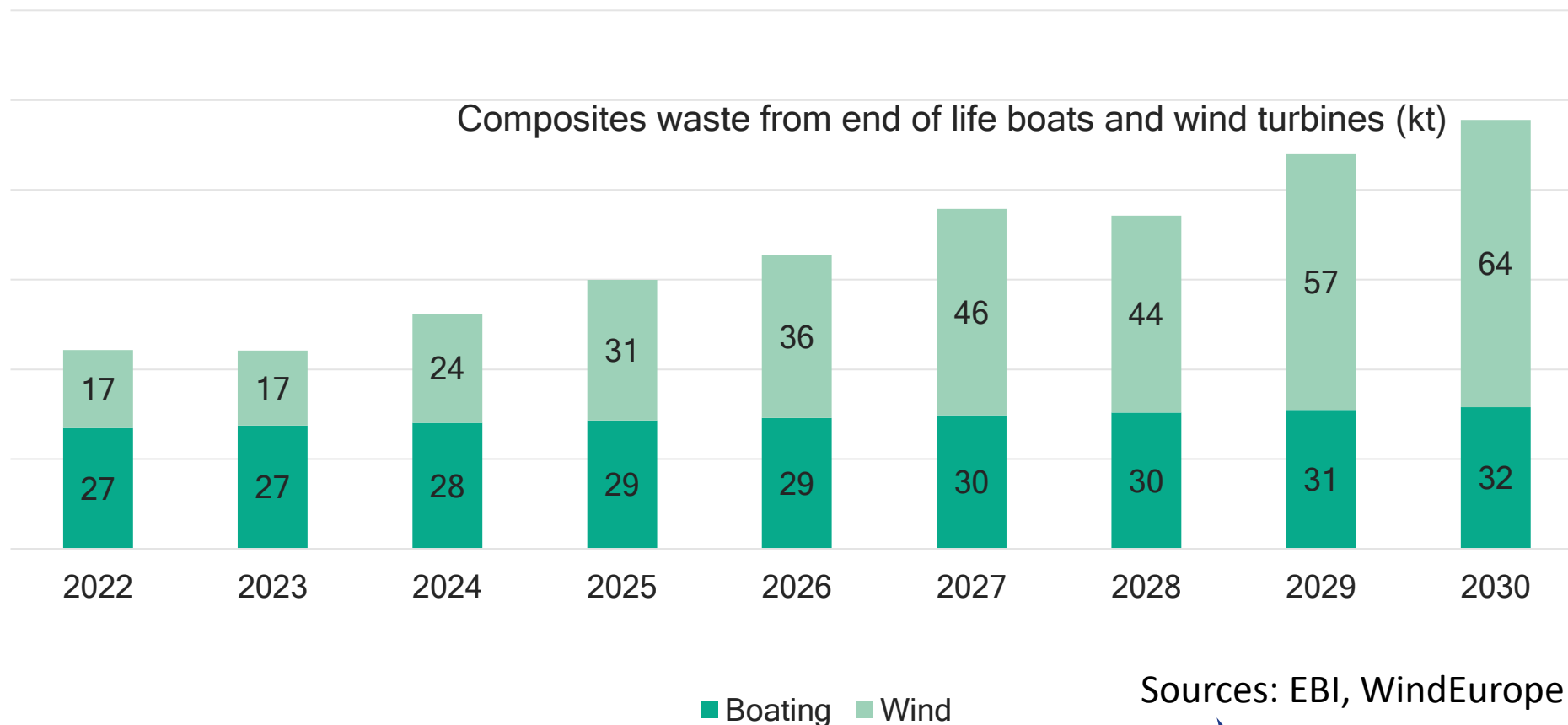
# Coalition with other industries, Main message about circularity of composites



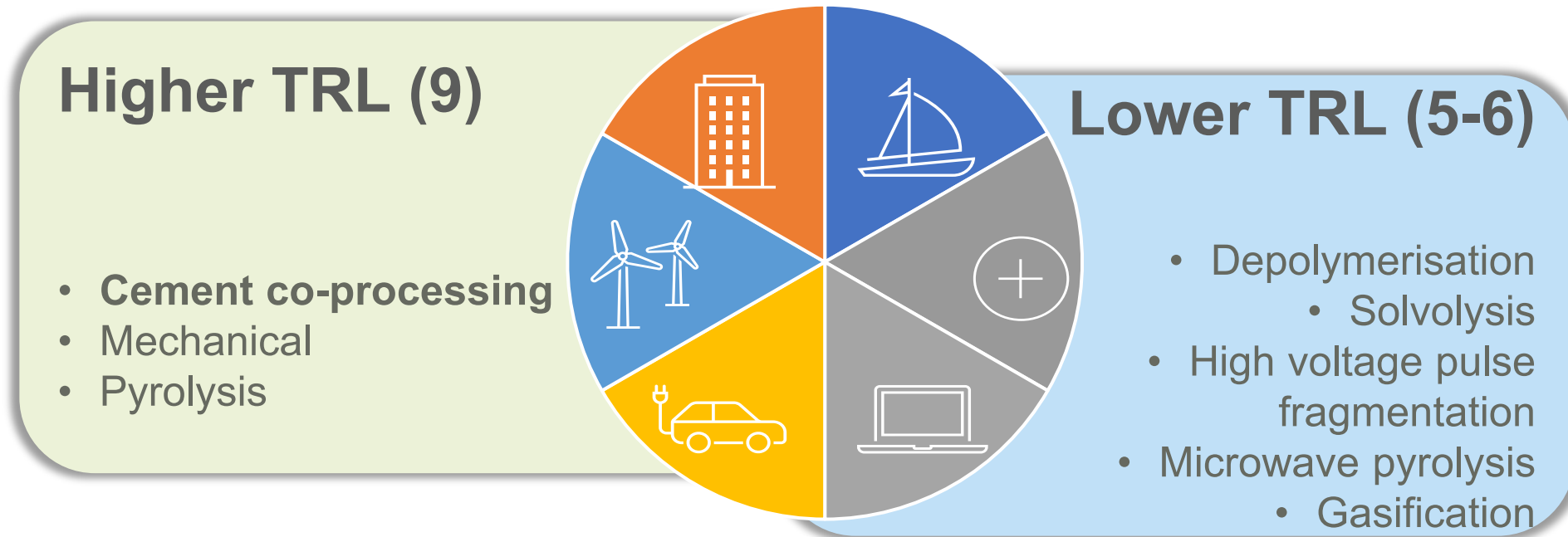
# Small volumes, serious ambitions, pro-active approach



# Waste from end-of-life composites is growing



# Recycling technologies are nearing maturity



➔ Cement co-processing paves the way for other technologies



# Cement co-processing is proven for treating end-of-life composite materials



- Benefits of material recycling:
  - **Benefit of re-using materials** : Reducing the use of natural raw materials in cement manufacturing
  - **Energy recovery** : Mitigating climate change contributions through replacement of fossil energy sources (pet coke, coal, lignite)
- Ultimately reducing required energy and CO<sub>2</sub> emissions in cement manufacturing process\*

**70%,** recycling raw material (glass fibre and mineral filler)

**30%,** energy recovery resins



# Recycling glass reinforced composites: Finland

- Originally government sponsored supply chain collaboration in 2021-2022 (“KiMuRa”)
- Now in full commercial operation for boats, construction profiles, wind turbine blades
- Collection throughout Finland by Kuusakoski, recycling into cement through Finnsementti

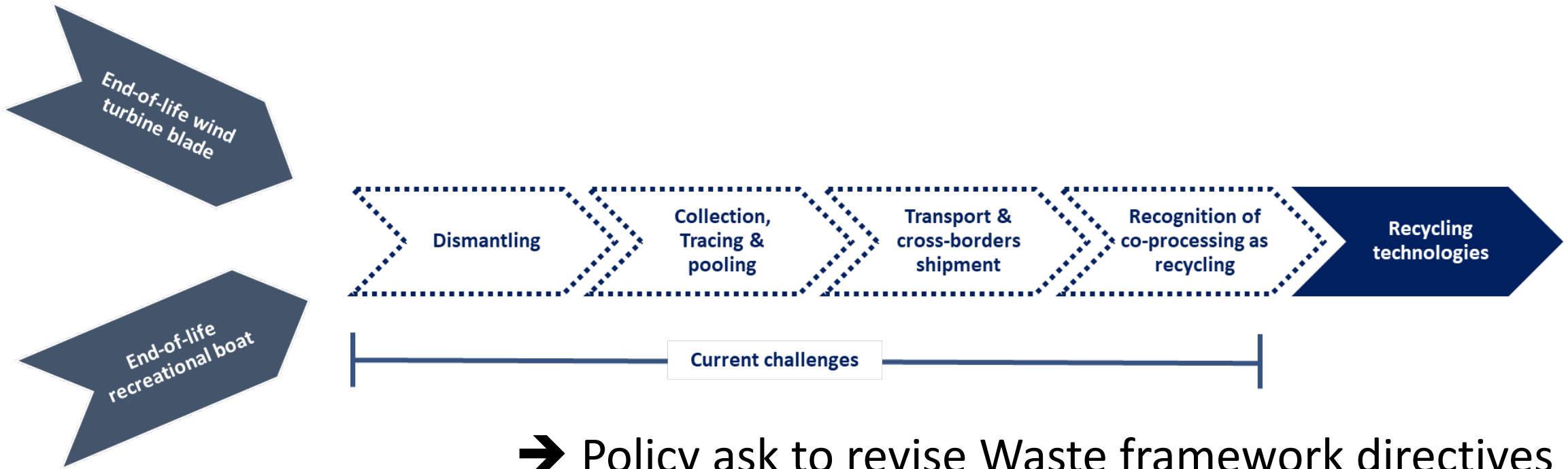


# Recycling glass reinforced composites: Germany

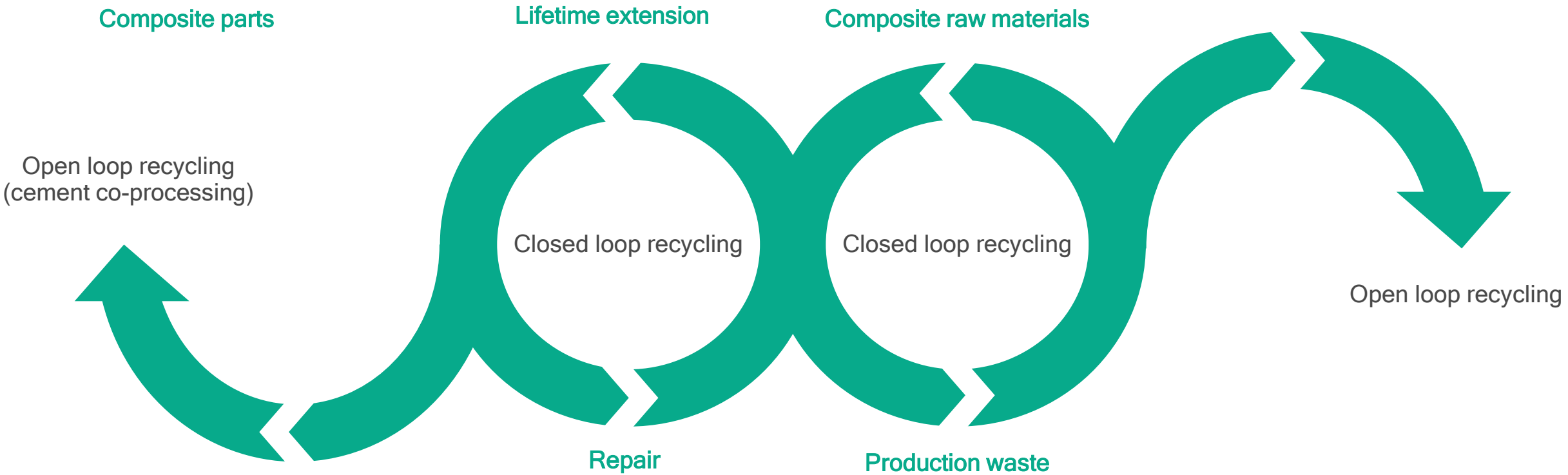
- Collection and cement co-processing for 10+ years at Neowa/Holcim
  - Processing ~10-15 kt/yr of composite waste
- New set-up at Roth International in commissioning phase
  - Capacity 20+ kt/yr



# Challenges on the way to industrial-scale recycling



# Desire to grow open-loop recycling of composites short-term while increasing closed-loop long term



# Conclusion

- Composite materials are essential to net zero objectives and their applications will continue to grow
- After long service lives, end-of-use has to be addressed :
  - Closed loop : repurpose, repair, remanufacture
  - Open loop : cement co-processing today, and future technologies tomorrow
- To facilitate the recycling of composite materials there is a need to revise waste framework directives
- EuCIA will continue working towards all these objectives



# Thank you ! Kiitos ! Tack !

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