

# **European Recovery Funds**

## **The German experience: process and initiatives**

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# Haras Najib

## Consultant at VDMA Power Systems

Responsible for:

- pre-competitive joint research of wind turbine manufacturers
- the VDMA Working Group Wind Industry

## WindEurope:

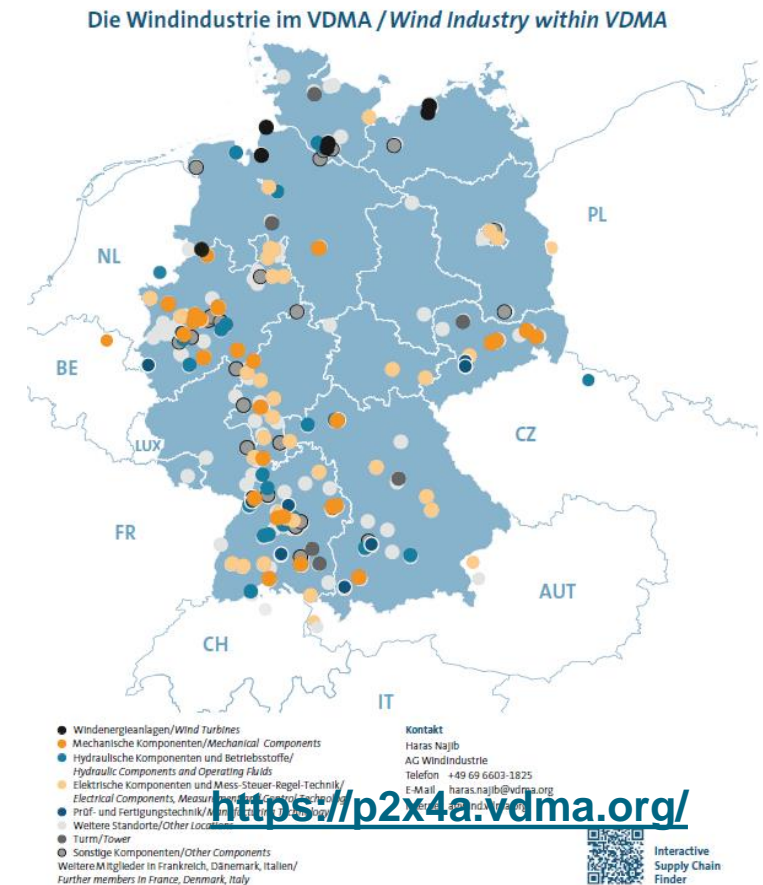
Chairman of the Task Force Dismantling and Decommissioning of Wind Turbines

# 1. Introduction VDMA

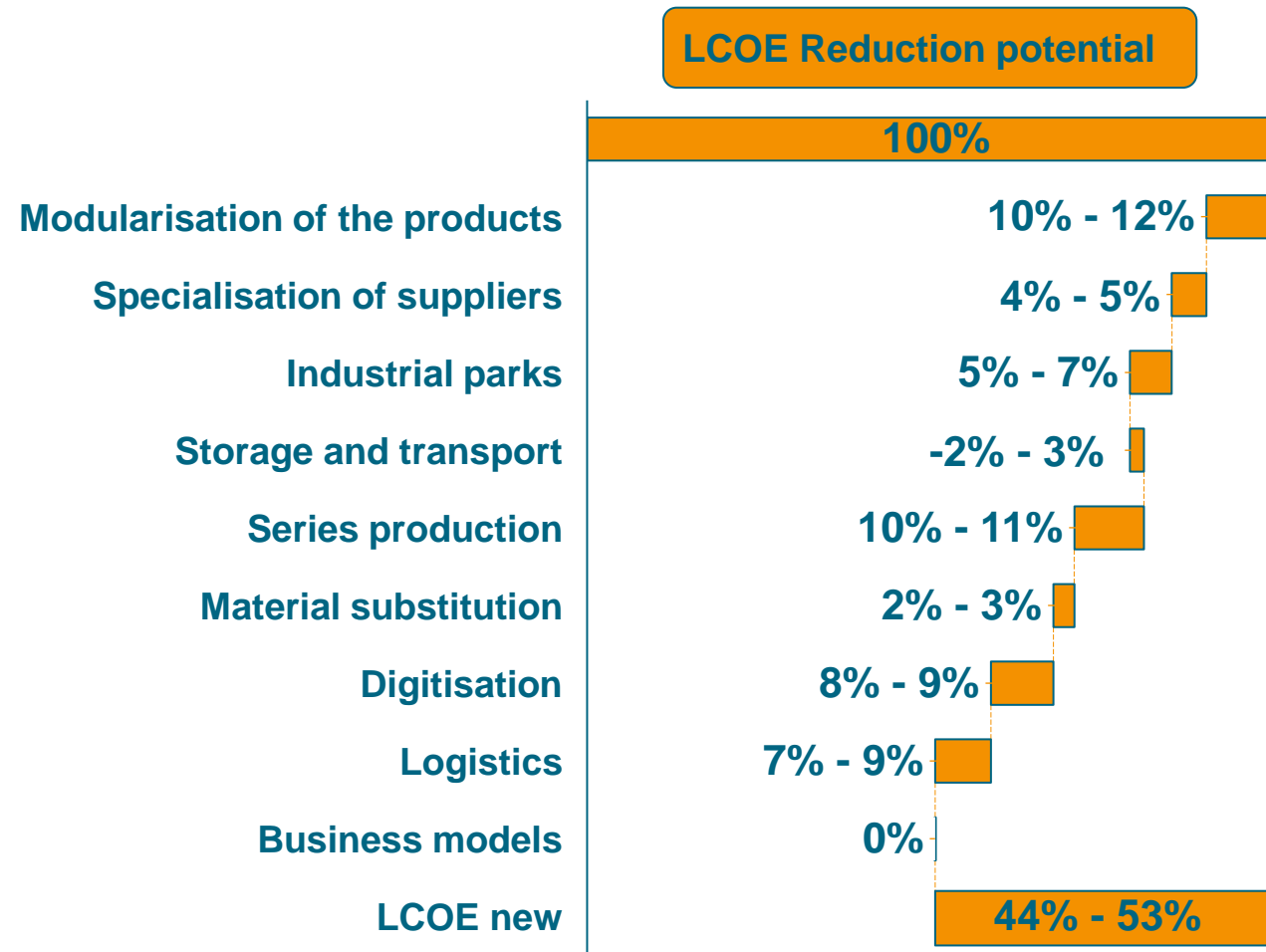
## Power Systems & WG Wind Industry



- **Trade Association VDMA Power Systems:**
  - represent the manufacturers and suppliers of power plants and heat generation plants
  - These include engines, thermal power plants, hydro power plants and wind power plants, as well as storage and sector coupling technologies
- **VDMA Working Group Wind Industry: Supply Chain Network**
  - Website: [agwind.vdma.org](http://agwind.vdma.org)
  - Wind Industry Map: [windindustrymap.vdma.org](http://windindustrymap.vdma.org)
  - Annual publication: [Wind Industry Guide 2020](#)
  - Über 140 Members: OEM's and Suppliers
  - OEM'S:



# VDMA Research Project Industrialisation in the Wind Industry 2019 - "Market & Technology & Cost Reduction Potential"



Source: „Industrialisierung in der Windindustrie“ - Prof. Wildemann, TU – München, 2019.

# EU Recovery Funds for Germany

- **Germany is expected to receive 23.6 billion euros as a non-repayable grant**
- **Criteria:**
  - at least 20 percent must go to digitalization
  - 37 percent to climate protection
- **The German reconstruction plan fulfils both objectives, but:**
  - Majority of the projects had already been decided and financed (German Recovery and Resilience Plan (DARP))
  - Only a quarter of the plan designated for new projects

# Wind Energy in Germany

## Onshore Wind:

- Repowering
- Decommissioning & Recycling

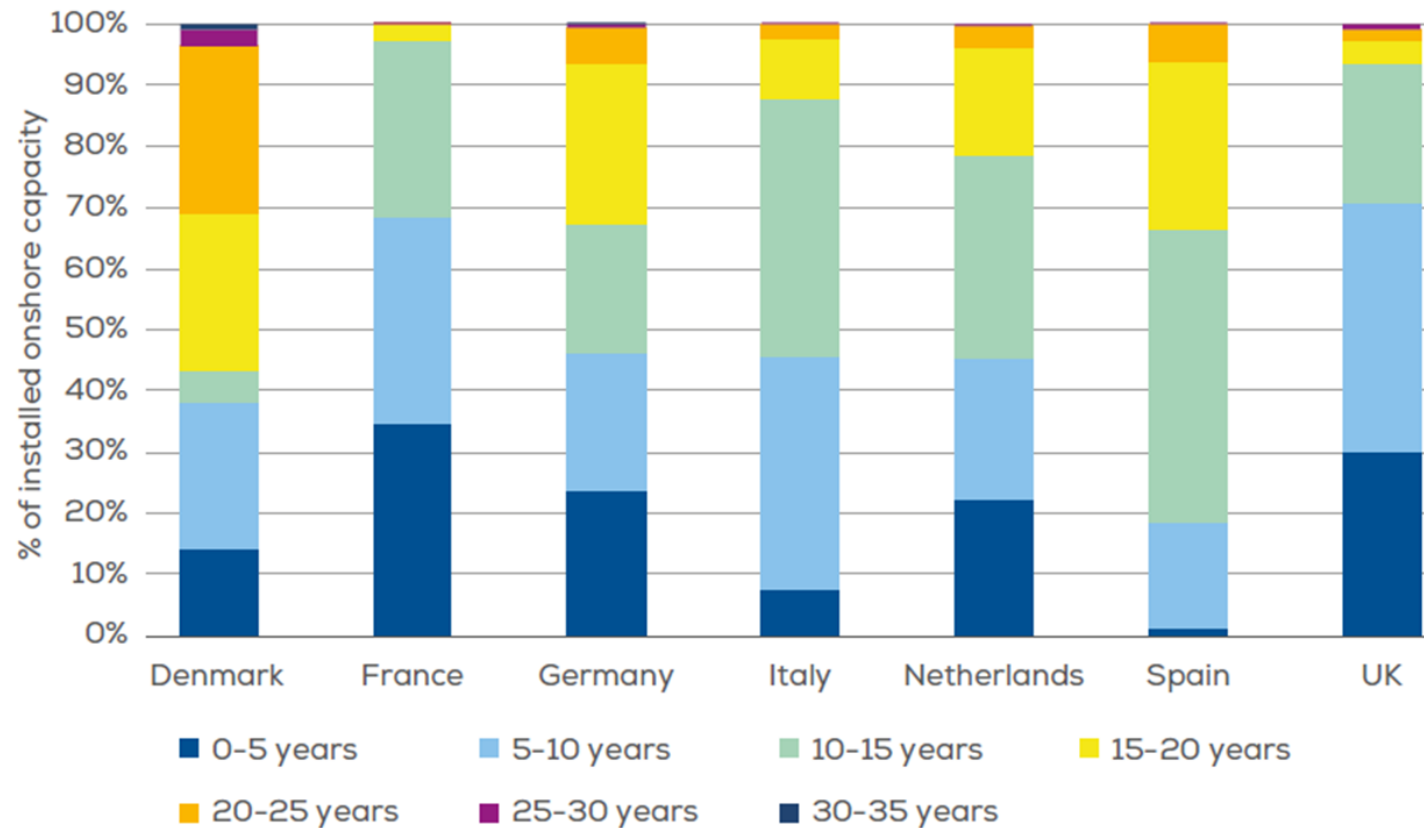
## Offshore Wind:

- BSH: „Land development plan 2020“ designates so called „Other energy production areas“ :

- In these areas, innovative forms of energy generation are to be tested, for example for hydrogen production without connection to the public electricity grid.



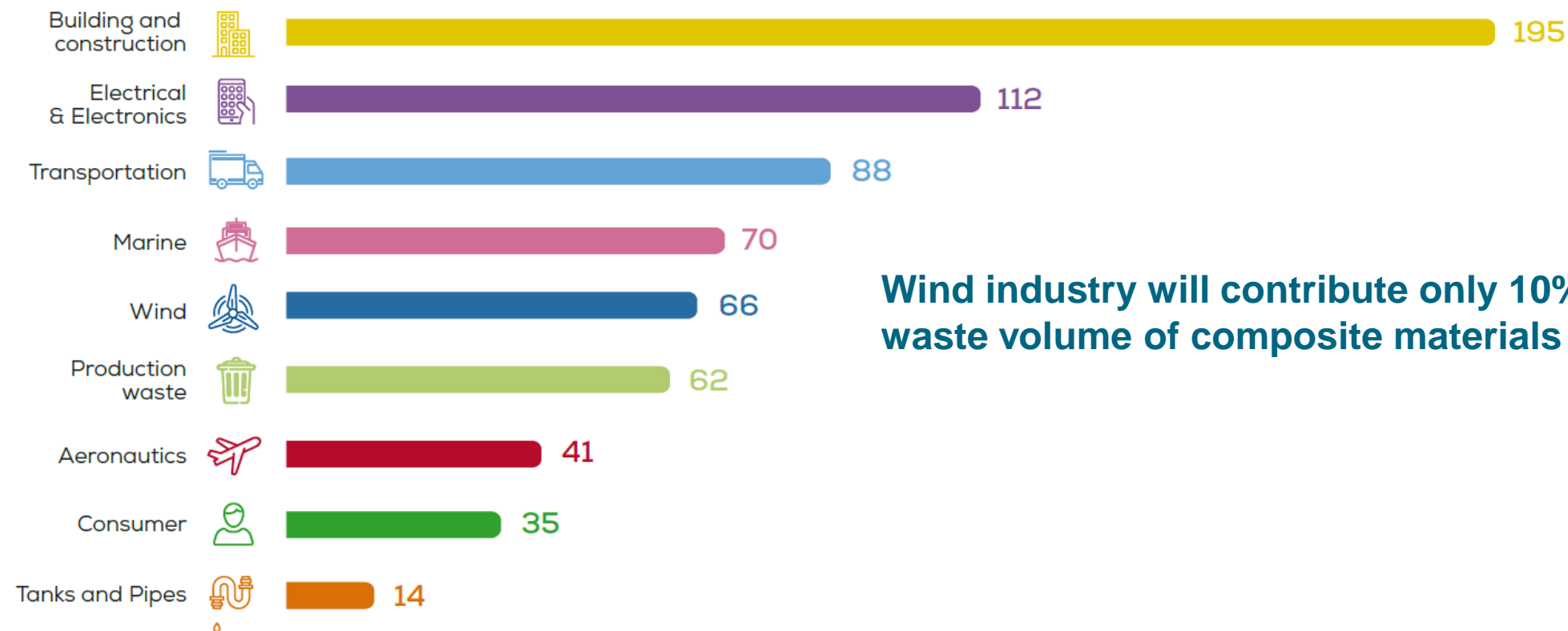
# Age of existing wind farms in Europe



- **Germany and Spain: 33% of WTGs over 15 years old**
- **Denmark: 57% of WTGs over 15 years old**
- **85 - 90 % of a WTG recyclable**

Source: WindEurope 2020.

# Estimate for 2025: Total waste volume of composite materials by sector

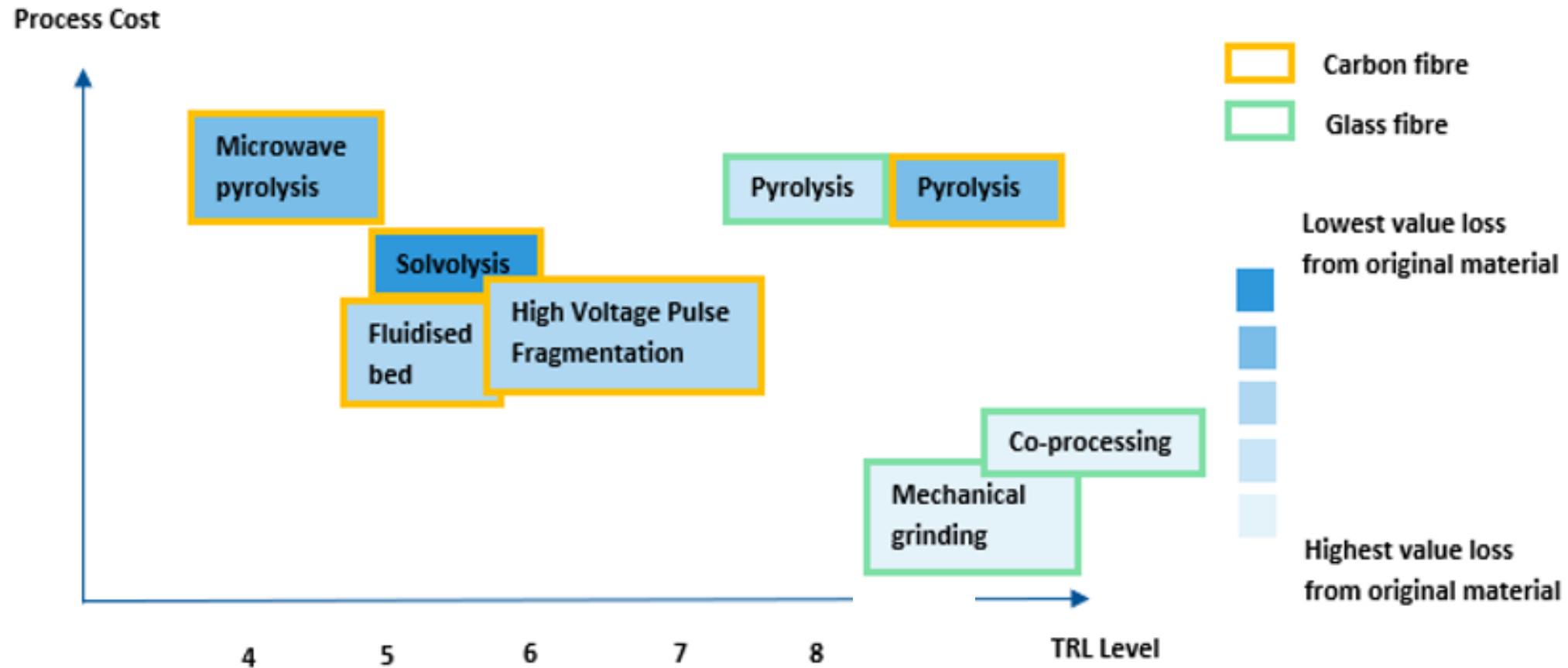


**Wind industry will contribute only 10% of the total waste volume of composite materials**

Quelle: ETIP Wind „HOW WIND IS GOING CIRCULAR - blade recycling, 2019.

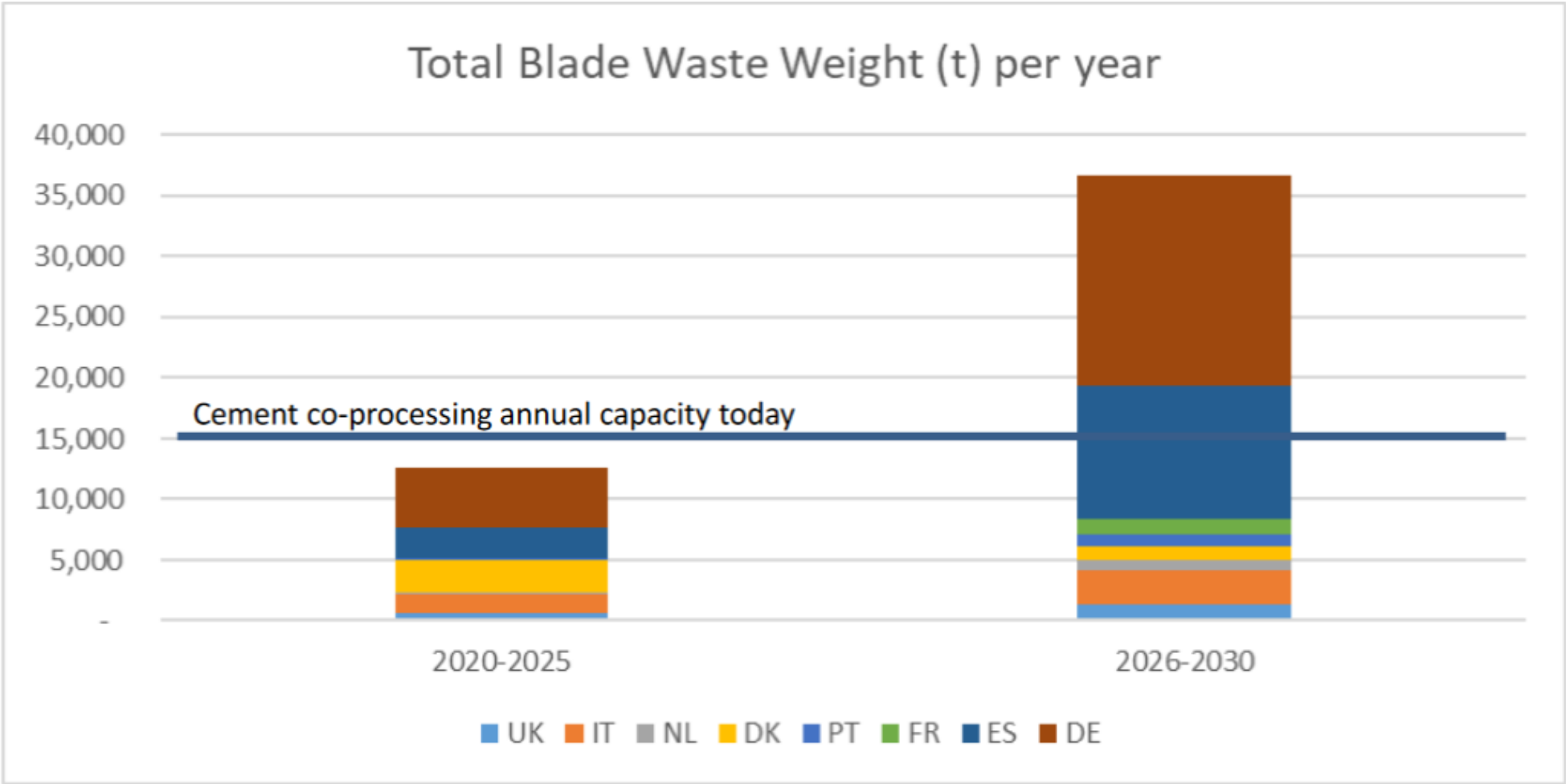


# Technological solutions exist but...



Source: WindEurope 2020.

# Estimation of waste volumes of rotor blades by 2030 and current capacities for thermal recycling



Quelle: Wind Europe 2020.

# Die Nationale Wasserstoffstrategie

<https://p2x4a.vdma.org/>

## German Hydrogen Strategy



On 10 June 2020 the Federal Government launched the National Hydrogen Strategy (NWS):

- » Focus on scaling-up and application of hydrogen: 5 GW by 2030, 5 GW by 2035 (domestic). The additional need of green hydrogen will be covered by imports
- » Focus on steel, chemicals and aviation
- » Transport shall contribute to the uptake of hydrogen: REDII shall be implemented swiftly; use of green hydrogen in e-fuels and conventional refinery processes
- » 2%-blending mandate in aviation by 2030
- » Support for establishing international hydrogen markets
- » European activities in the context of the Green Deal
- » Establishment of a Hydrogen Council with 26 stakeholders from industry, NGOs and research (7 VDMA members)

## Contact



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