

everything has value.



# From WasteD to feedstock

Can chemical recycling bring solution to decommissioned blades?



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- Wind Europe: 105.000 turbines currently,
  - 50.000 turbines older than 10 years
  - 7.000 turbine older than 20 years
- Average capacity of a turbine growing
  - Onshore 2,7 MW/turbine (2017)
  - Offshore 6,8 MW/turbine (2018)
- Largest installed turbine 8,8 MW (2018 in UK)
- Next step: Haliade-X, 12 MW, 107 m blade

# WTB mass per rated power

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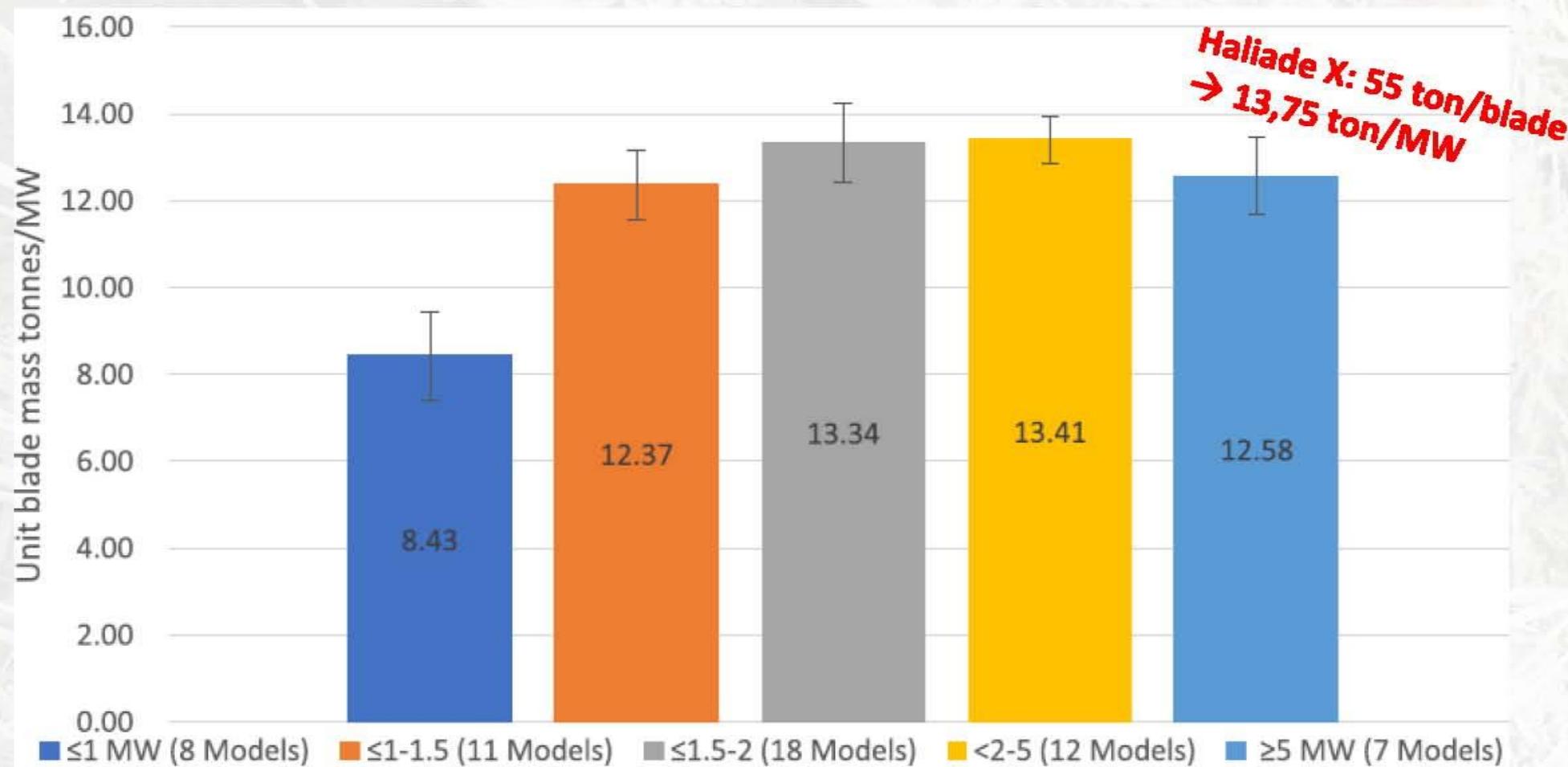


Fig. 3. Blade mass per unit rated power for the different turbine size classes.

# WTB waste projection

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P. Liu, C.Y. Barlow / Waste Management 62 (2017) 229–240

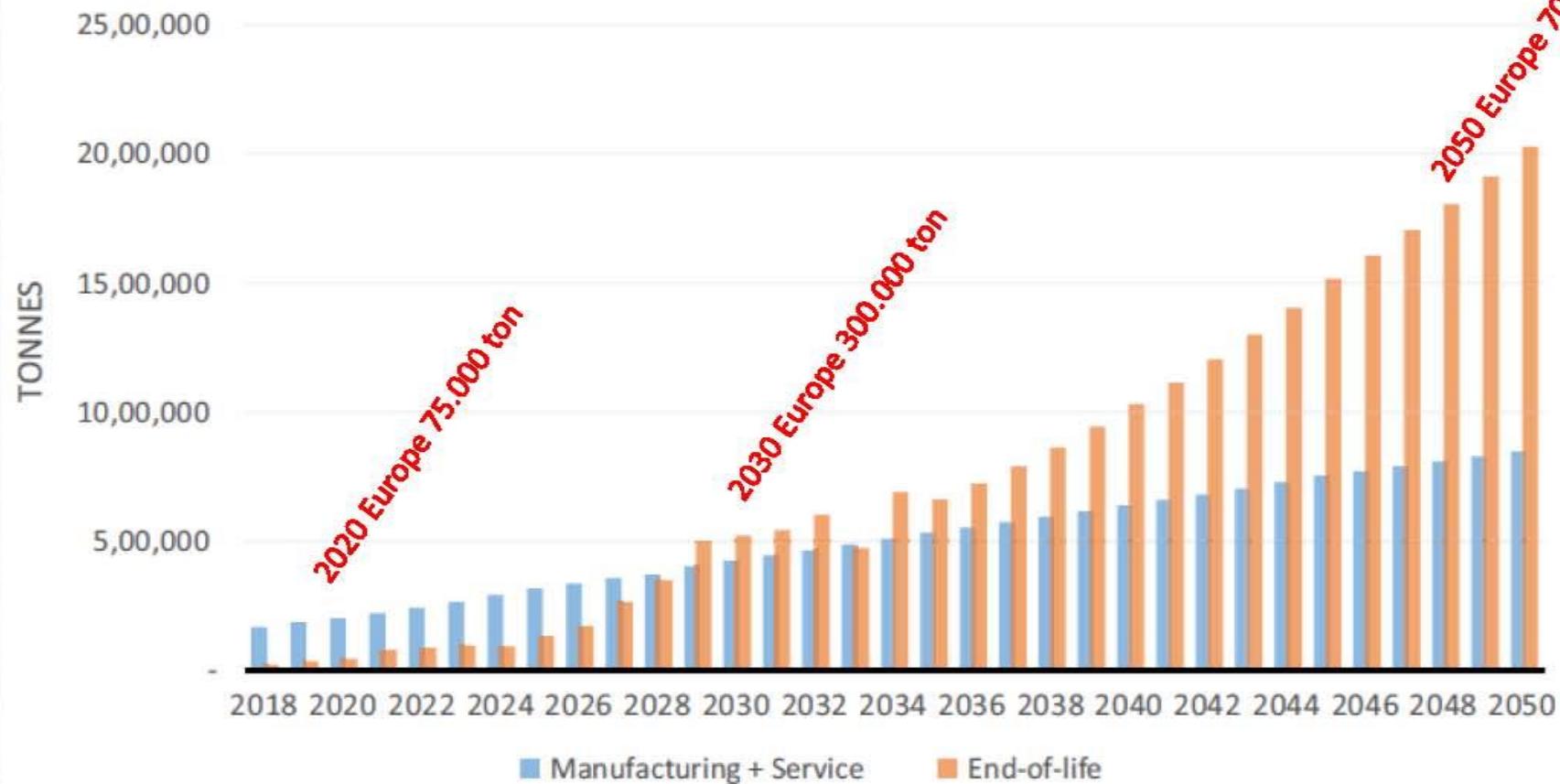


Fig. 10. Global wind turbine blade waste projection up to 2050.

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L&B: 2050 WTB waste 40% China, 25% Europe!

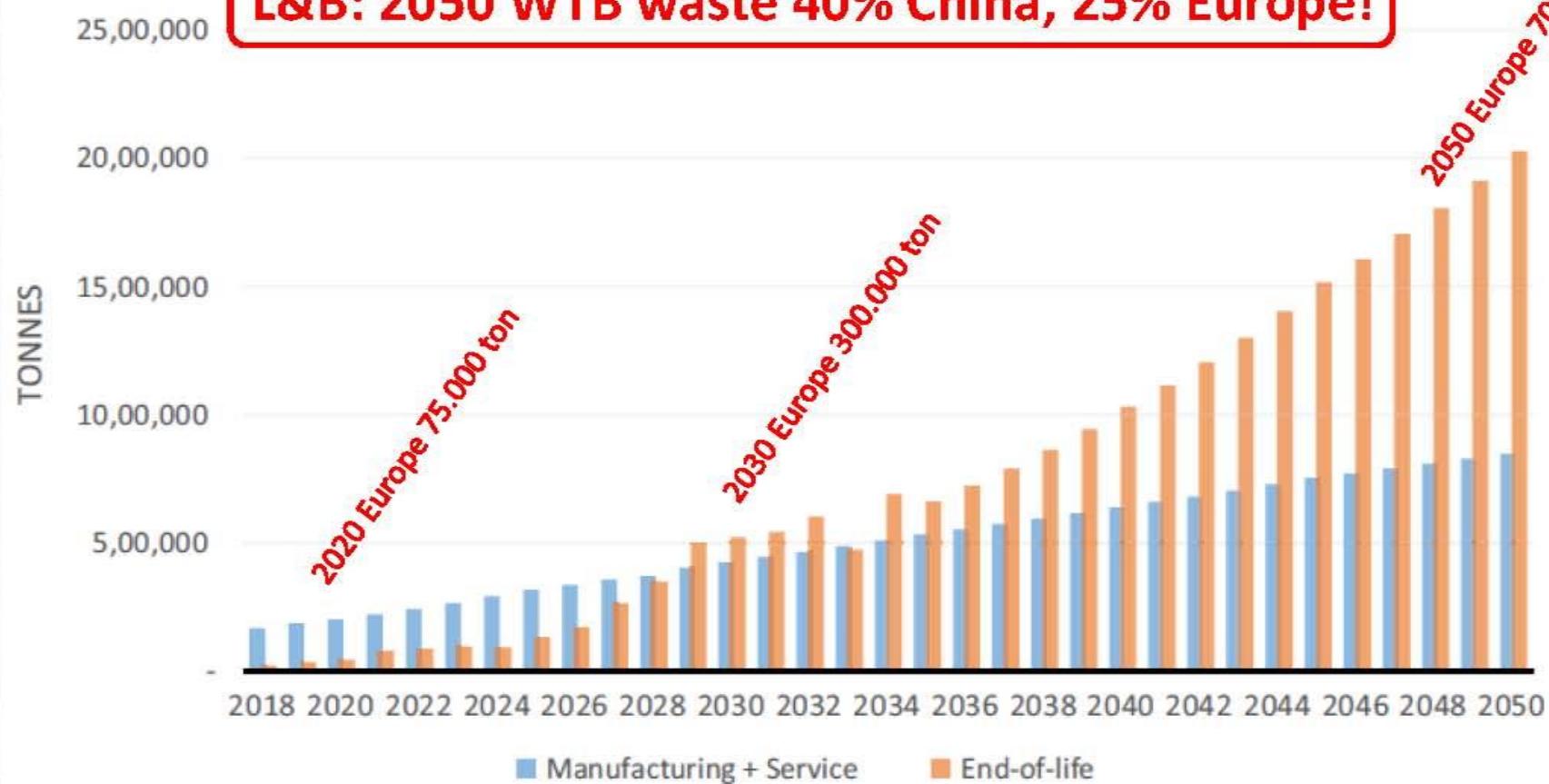


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L&B: 2050 WTB waste 40% China, 25% Europe!

EuCIA: 2025 Total Europe 1,5 milj. ton!

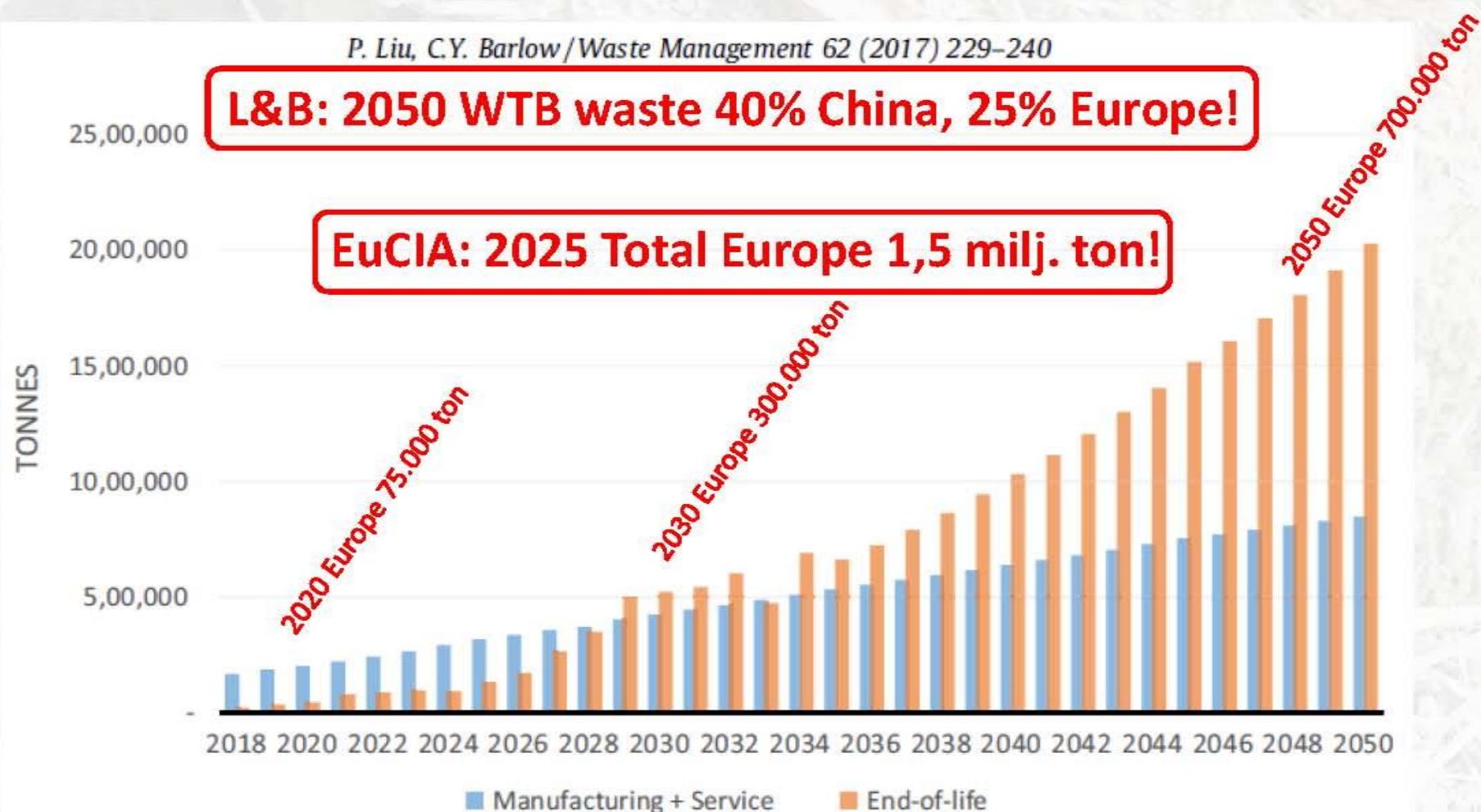


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# Current practices and costs

everything has value.



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- **Material use (furniture, insulation, reinforcement for riverbanks, tiles etc.)**
  - Large-scale outlet?
  - Economically viable?

# Projects

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**DECOM  
TOOLS**

**Interreg**  
North Sea Region

European Regional Development Fund



EUROPEAN UNION



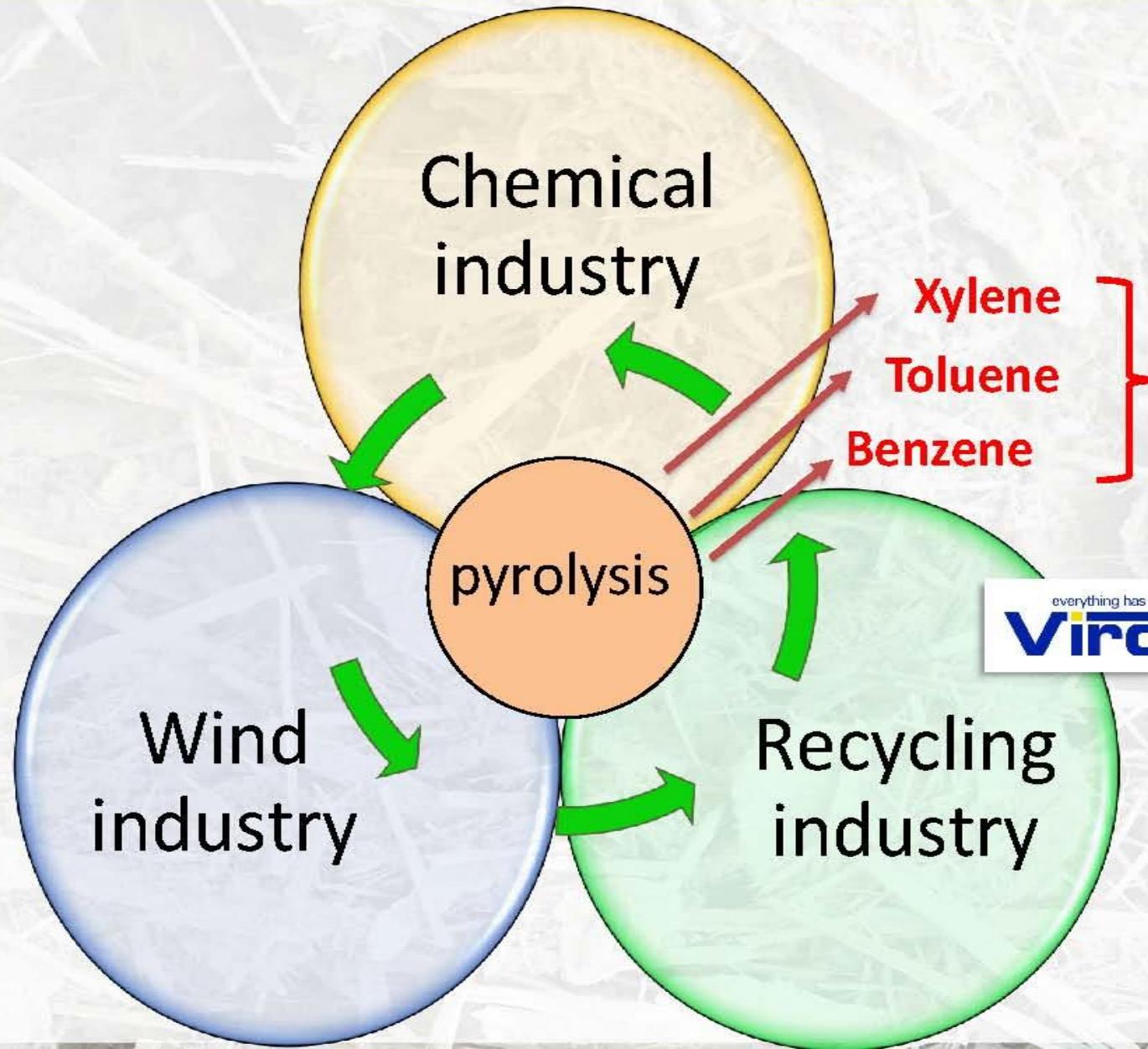
**REALPOW**



Don't call it a dream, call it a plan!

everything has value.

**Virol**



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**Virol**

Feedstock for  
NEW materials!  
  
NOT for energy  
generation!

- Harbors active
- Landfill bans increasing
- Regulative push towards circularity
- Moral responsibility

## 1. Composite Industry

- Cost reduction in recycling of composites
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## 3. Recycling Industry

- Expansion of business: processing and recycling

From small steps to big solutions

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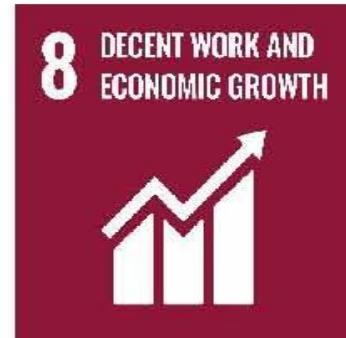
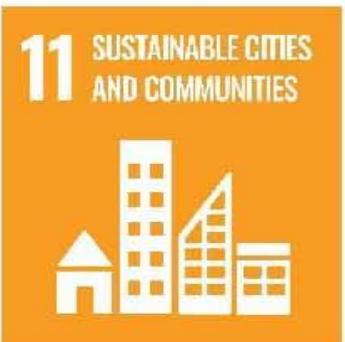


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SUSTAINABLE  
DEVELOPMENT GOALS



**THANK YOU!**

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