

# SusChem 2017 Brokerage Event

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**Project Proposal: Increase Recyclability of FRP**

Bax & Company, Brussels, October 2017

- Multi-disciplinary (science, engineering, sustainability, business) team applying well structured methods and tools to deliver tangible results
- Broad portfolio of innovation management services applied to high-tech sectors for leading actors at EU level (academia, industry and public administration)
- Support scientists and innovators in commercialising their innovations
- Decades of experience in pan-European collaborative projects in high performance materials for various end-user sectors
- Supports R&D leaders to conceptualise, plan, and secure co-funding for their R&D collaborations, with around 70% success rate

Demonstrate circular economy principles in the FRP industry by bringing together partners from the whole value chain:

- **Raw materials** (e.g. materials designed for increased recyclability, such as reversible thermoset matrices through solvolysis)
- **Suppliers** (e.g. automotive suppliers developing processes with reduced energy consumption, and willing to demonstrate closed loop recycling)
- **End-users**

The activities are expected to be supported by partners who will:

- Monitor the **environmental performance** of the innovations (through means of LCA)
- Monitor the **cost performance** of the innovations (through means of LCC)

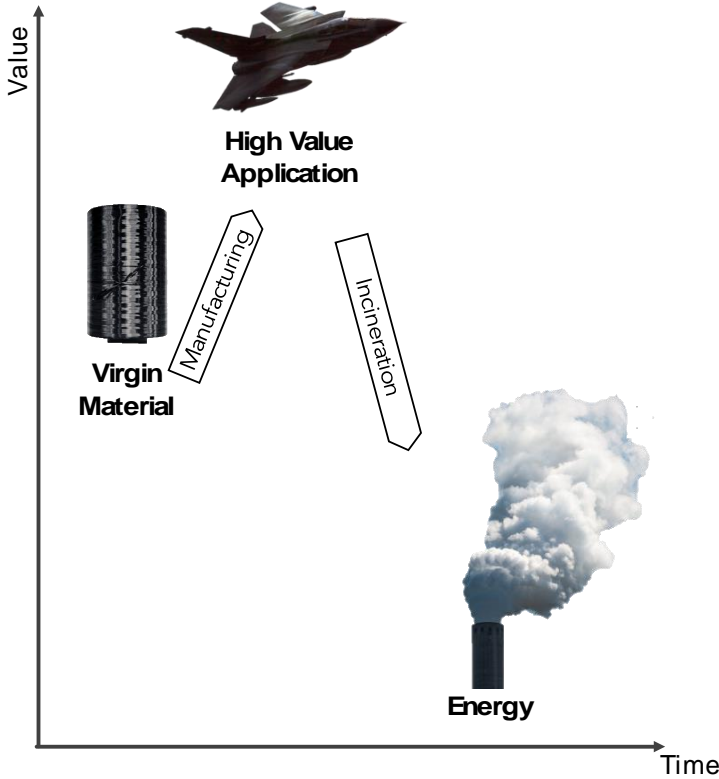
**CE-SPIRE-10-2018:** Efficient recycling processes for plastic containing materials  
(IA, DL: 22/2)

OR

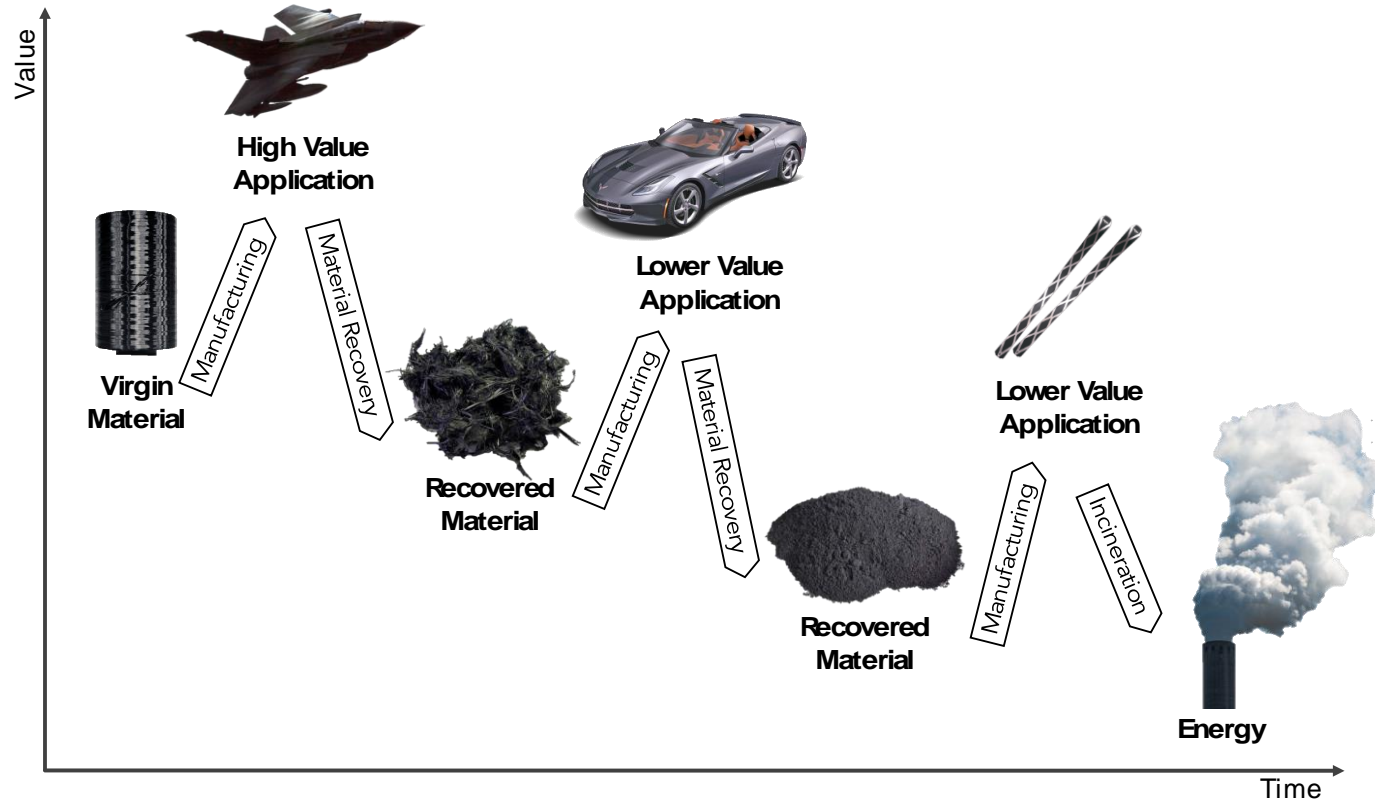
**CE-NMBP-26-2018:** Smart plastic materials with intrinsic recycling properties by design  
(RIA, DL: S1 – 23/1; S2 – 28/6)

# Expected Impact

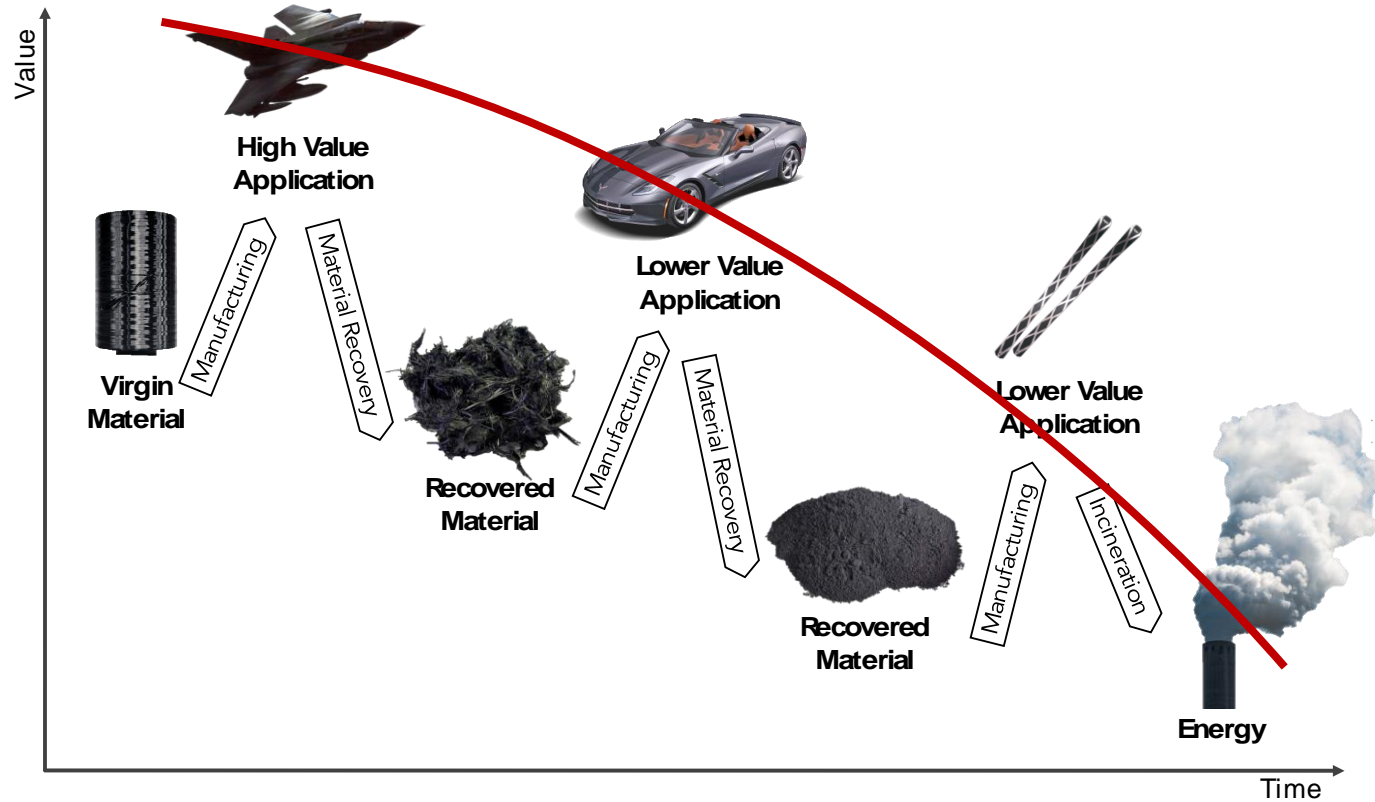
## Current Lifecycle of Composite Materials...



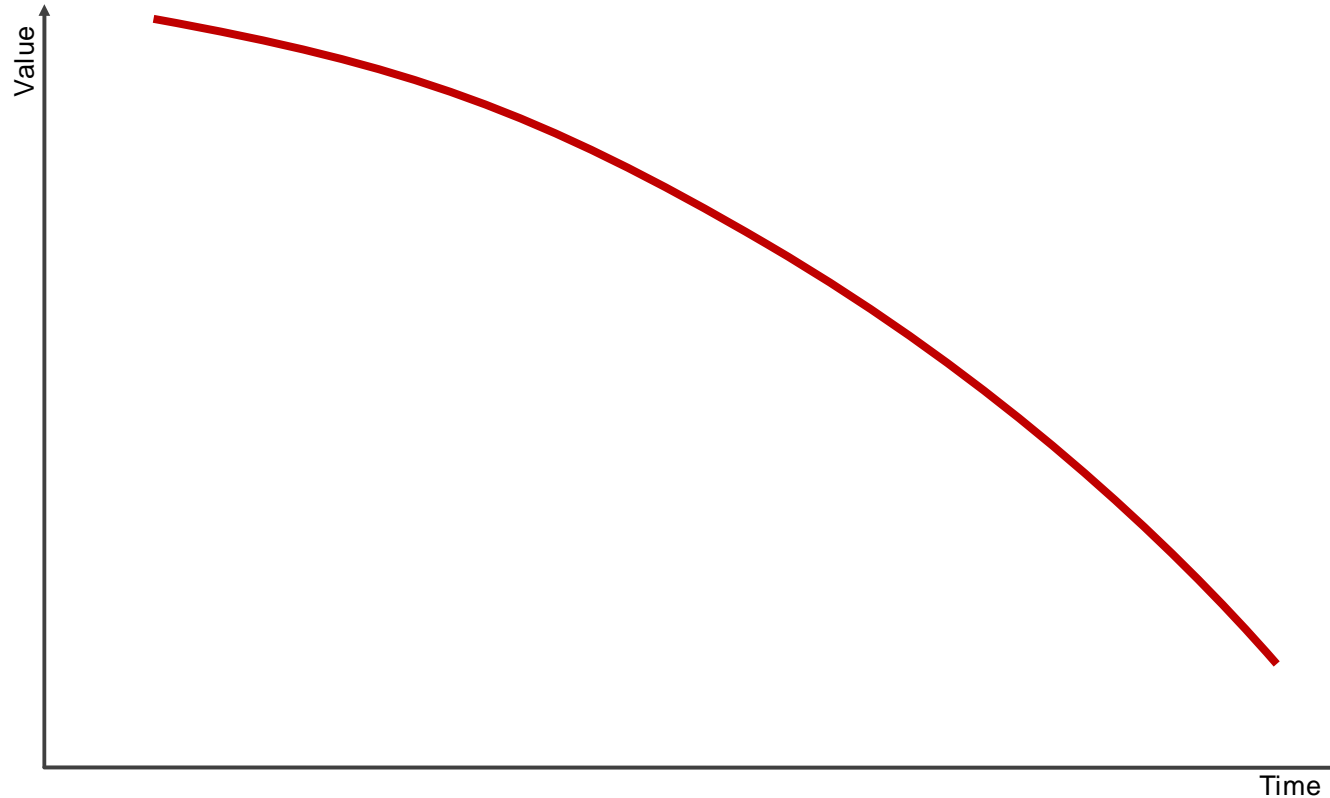
...or in the best case



...or in the best case

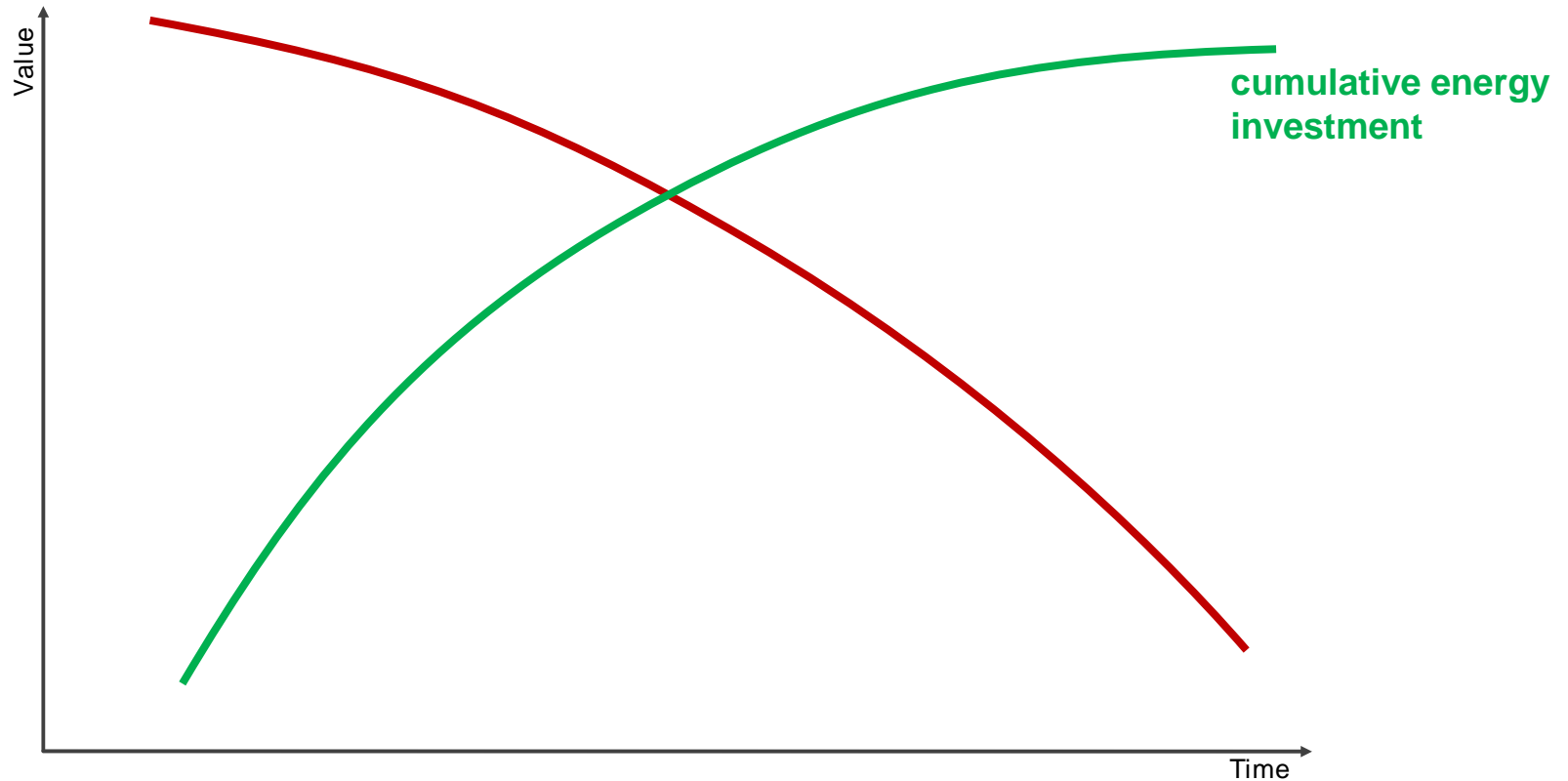


...or in the best case...



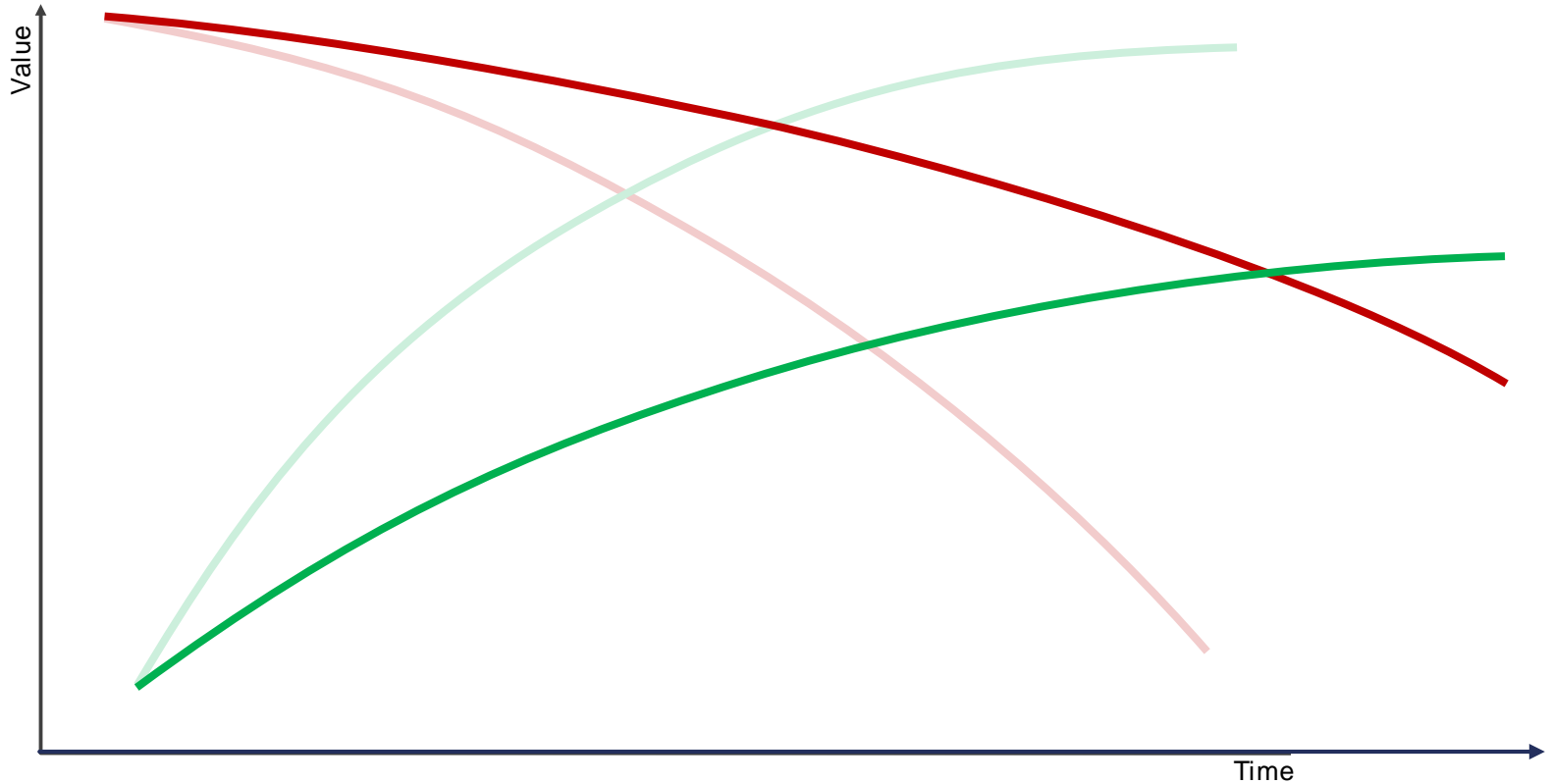
→ still significant loss of value in a relatively short timeframe compared to material inherent lifetime

...while significant energy is consumed during the process





→ we want to increase value and material lifetime

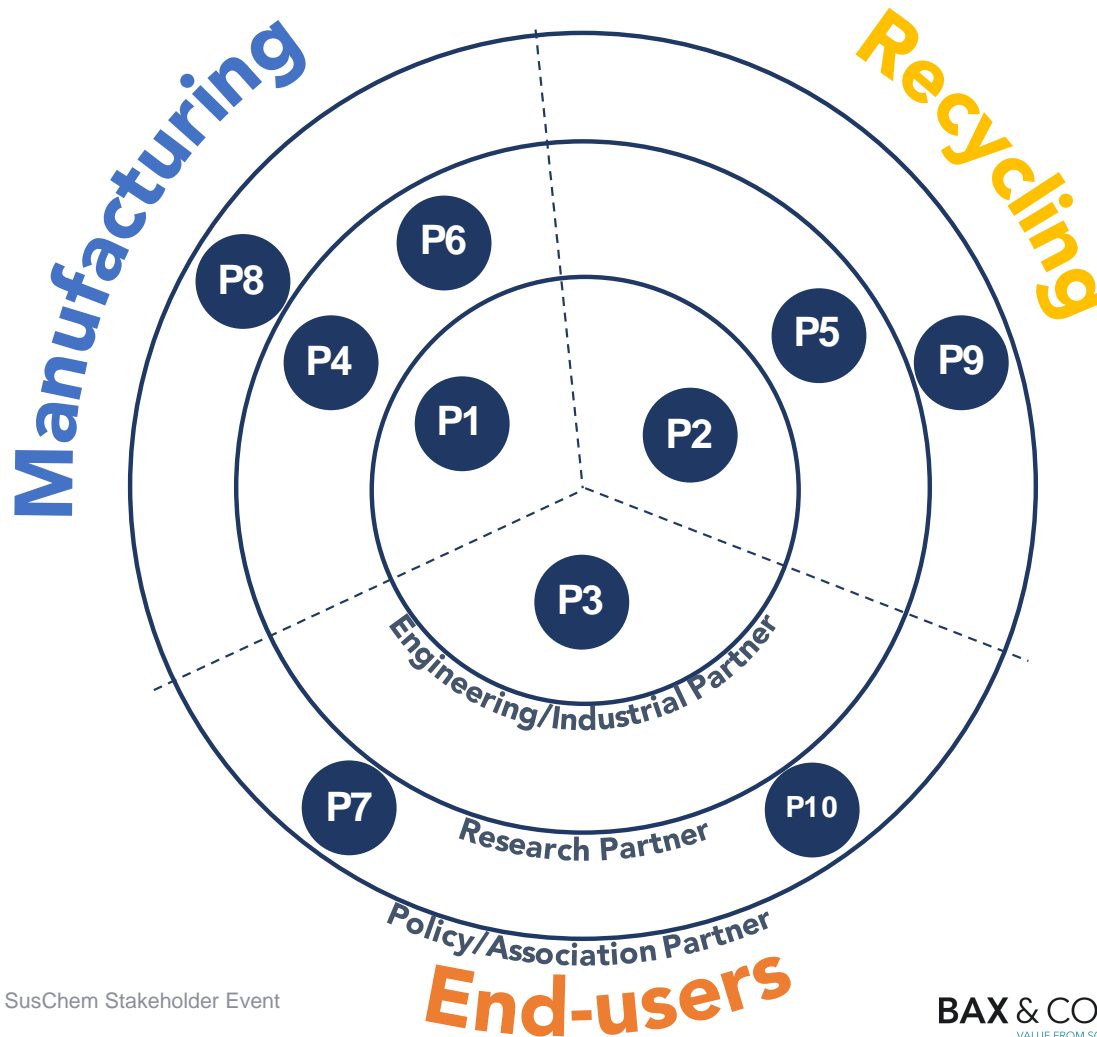


and reduce the cumulative energy investment

- Each year some 40,000 tons of composites are deposited in EU landfills
- Combined worldwide FRP recycling capacity amounts to <10,000 tons annually
- Some 40% of total FRP material used in production ends up being wasted, either as scrap or defective parts

→ we want to:

- Demonstrate a pilot FRP value chain that can achieve:
  - Decreased utilization of primary fossil resources by 30%
  - Decreased CO<sub>2</sub> emissions by 20%
  - Re-utilization of waste of at least 70%



# Contact details:

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