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Engaging with SusChem on Nano- and Advanced Materials

EuroNanoForum 2019, Bucharest
Session 1.1 - Nanotechnologies and Advanced Materials for a Carbon-neutral Society by 2050

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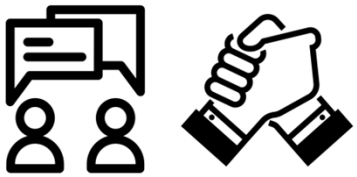
SusChem ETP – its role as a European Technology Platform

> 30 ETPs covering a range of topics (e.g. Energy, Transport, ICT)

SusChem ETP unique focus: Sustainable Chemistry, and Industrial Biotech

1. EC-recognized, open multi-stakeholder forum

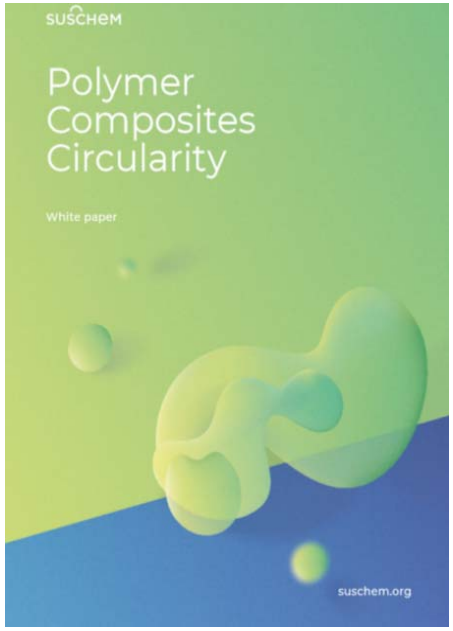


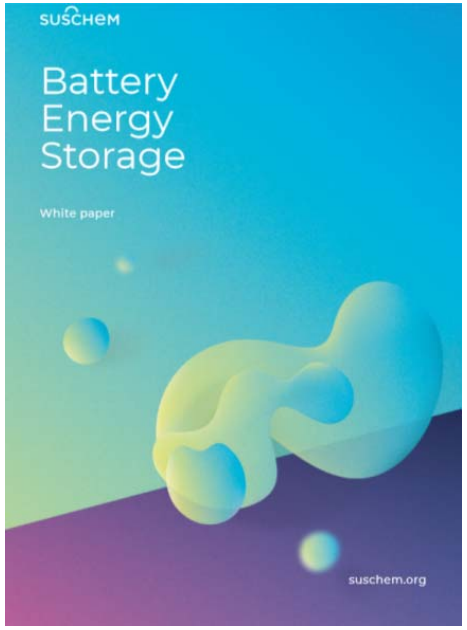
- Mobilizing and bringing together stakeholders from the **large Industry, SMEs,** *startups*, **and Academia (Universities & RTOs),**
- Promote knowledge sharing and transfer across the EU – incl. white papers

2. Advisory instrument (technology priorities)*

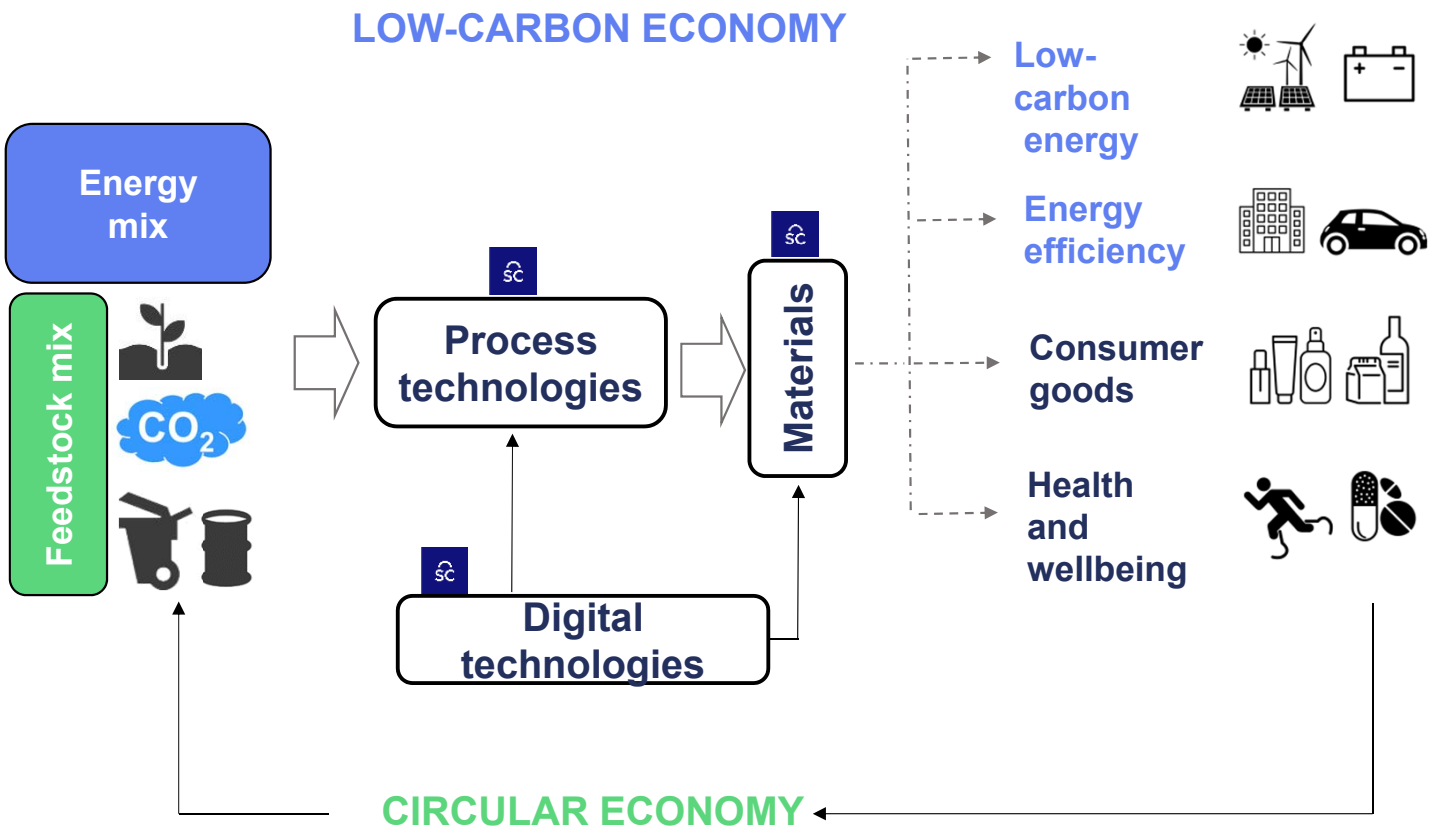
- Driving innovation, defining **tech priorities/ solutions** to **global challenges** and **EU priorities**,
- **R&I agendas** to be supported by both private and public funding (EU and national level)

PUBLICATIONS





Role of sustainable chemistry for Europe



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Materials for efficient production, storage and use of energy

- **Sensor materials** including photonics for photovoltaic applications
- **3D Printable and/or stretchable** materials for electronics
- **Composites and polymers designed for recyclability** (e. g. for wind turbines, housing, insulation)
- **Smart materials** including light and temperature responsive for in buildings and infrastructure
- **Energy storage materials** for heat to power and renewable energies (solar, wind, geothermal, tidal, etc)

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Materials for energy efficient mobility

- **Light weight materials** (composites, metal alloys such as Mg, Al alloys, etc) for efficient mobility
- **Materials for batteries** (redox flow batteries, electrodes and electrolytes, fuel cells)
- **Enhanced membranes, catalysts and separators** for e-mobility
- **Functionalized/smart materials** (such as self healing, nano structured smart tyre rubbers) to enhance durability and energy efficiency

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New generation of materials

- High performance **reinforcement fibres** (glass, carbon, bio-based) for composite materials
- **Polymer matrices (**such as thermoplastic resins) designed to enhance mechanical properties and cost effective manufacturing
- **Cellular materials** including foamed nanostructures and aerogel polymer blends
- **Recyclable new materials**, like thermoplastic resins, bio-based resins and polymers (i. e. PLA and sustainable composites)
- **Upcycling** of waste streams
- Development of **durable coatings**

Recycling for circularity

- Technologies facilitating recycling while **creating value of the recycled plastics, composites** (e. i. improved quality and/or high value applications for recyclates)
- **Chemical recycling of plastics waste streams: moving from plastics to fuels towards plastics to plastics: chemical recycling (e. g. pyrolysis, solvolysis, etc)**
- Materials Recycling with enhanced pre-sorting and separation technologies
- Organic recycling and bio-degradation

… **Designing for circularity**

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Thank you!