

Finance for innovation: Towards the ETS Innovation Fund



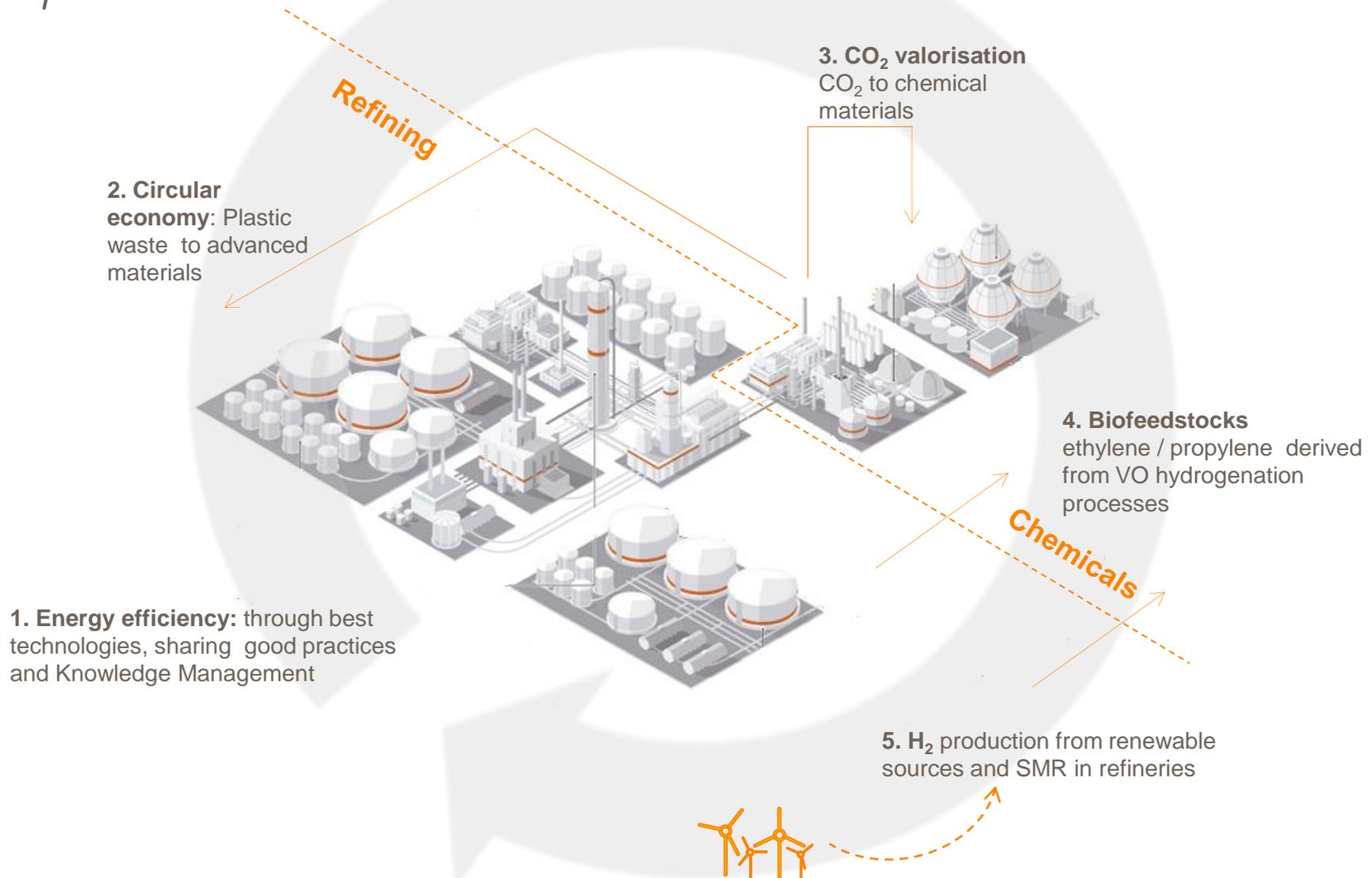
Chemicals & bio-based Round table

Jaime Martín Juez
Director of Technology and Sustainability

Brussels, 23-March-2017

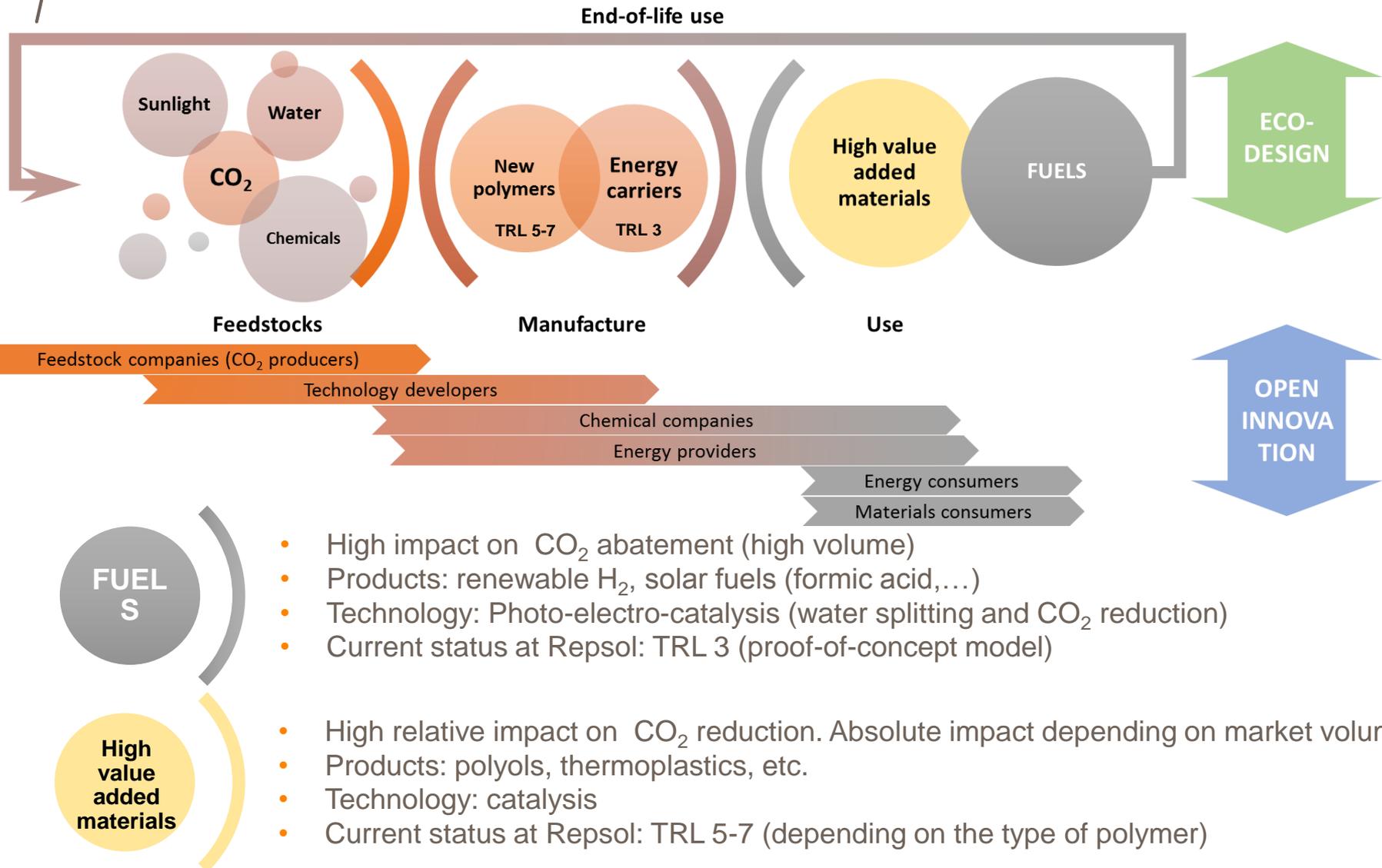
Refining – Chemical Integration

Innovation as a key driver



Chemical valorisation of CO₂

Project development

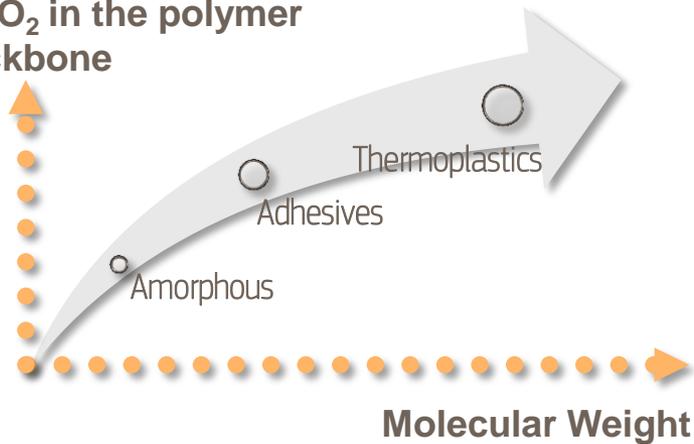


CO₂ to chemical materials

Project development: 3 types of CO₂ based polymers



%CO₂ in the polymer backbone



- CO₂ from our own industrial processes
- Technology: catalysis
- Applications: adhesives, thermoplastics, coatings, elastomers, smart materials,...
- GWP reduction: up to 30%
- Energy savings:
 - Electricity: up to 57%
 - Fuel: up to 11% (as Kg fuel eq, FDP ReCiPe)

- TRL: 5 to 7 (depending on the type of polymer)
- Industrial scale: 2020
- Investment: several hundreds M€
- Applications development: collaboration with selected customers
- Public co-funding sources:
 - EEA-Grant tool
 - National contact point funds (CDTI)



CO₂ to chemical materials and fuels

Financing and support



To ensure leadership of the European chemical industry in clean technologies for the valorisation of CO₂ it is essential to:

- 1) Provide appropriate support to the development of the various CO₂ conversion technologies regardless its Technology Readiness Levels:
 - Many CO₂-derived products will have trouble competing with fossil derived alternatives:
 - Investment for the development and scale-up of the new technologies to reduce operating costs, capital expenditures, scale-up risks, take advantage of scale-economies, etc. → **ETS Innovation Fund.**
 - Incentives for CO₂ conversion products production and use:
 - ✓ **ETS** : Both, CO₂-derived products and CO₂ conversion solutions should be eligible for ETS
 - Availability of low price and low emissions electricity
 - Establish the supply chain and the value chain: industrial symbiosis
- 2) Ensure coherence and stability over time of the Resource and Energy policy framework to allow investment in related low emissions technologies in Europe:
 - **Policy and regulation**, should take into account products made of CO₂ (as the recent revised Renewable Energy Directive is paving the road to fuels synthesized from CO₂). At present, however, CO₂ fuels and products are not yet fully defined in any directive
 - Define and establish common standards for Life Cycle Analysis that covers all aspects of sustainability.

Inventemos el futuro

THANK YOU

