



## Discussion on Industrial Perspective TOWARDS NET-ZERO CO<sub>2</sub> EMISSIONS FOCUS: BRIDGING THE CLIMATE TECHNOLOGICAL GAP

Time: 19:45-20:20

SPIRE aims to bridge the technology gap existing between the level of decarbonisation achievable with already available and economically affordable technologies and the Paris Agreement objective of overall carbon neutrality by 2050. SPIRE intends to enable the Process Industries to fully contribute to the transition of the global economy towards a “well-below 2 degrees” scenario.

R&I actions need to develop the scale of operations required through, for example, larger demonstrators. SPIRE calls for instruments that allow comprehensive bridging of the technology gaps and scaling up the impact for the environment and society. This will require developing the following types of projects under Horizon Europe:

**Lighthouse Projects:** setting a clear signal of the direction that industrial R&I should move towards;

**Larger-scale Flagship Projects:** demonstrating the industrial feasibility of system solutions with strategic potential, high impact and considering higher TRLs. Demonstrators are required to test technologies at scale and explore integration with existing processes to better understand the techno-economics that will help further de-risk future investment and set the right framework for competitive technology application in Europe.

The developments needed through future SPIRE projects in order to bridge the climate technological gap for the EU process industries are aiming at:

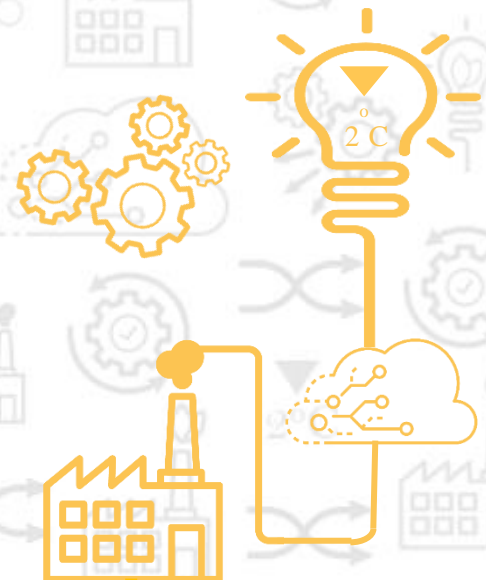
The electrification of industrial processes as a pathway towards carbon neutrality, based on the switch to renewable energy sources and the use of ICT tools, such as smart grids;

A new energy mix, including both renewables and the use of hydrogen as energy carrier and feedstock;

Enhanced energy efficiency – the energy that we do not lose is the cheapest form of energy bought, also for the process industries;

The capture, collection, storage and use of CO<sub>2</sub> from the industrial exhaust gases to produce fuels, chemicals or various (building) materials;

Achieving first industrial symbiosis, the industrial-urban symbiosis, in order to reduce the CO<sub>2</sub> emissions from the industrial clusters located near the (larger) EU cities. These two last topics are transversal, also helping to achieve the SPIRE “Hubs for Circularity” ambition.





# Discussion on Public Perspective TOWARDS ZERO-LANDFILLING SCENARIO FOCUS: PROCESS INDUSTRIES AS “HUBS FOR CIRCULARITY”

Time: 20:35-21:15

A “Hub For Circularity” is defined as a cluster of interconnected industrial (large companies and SMEs) and/ or public facilities within a given geographical area, which collectively achieve a demonstrable level of circularity in their use of resources.

The transformation of European society towards more circularity requires the multiplication of “Hubs for Circularity” throughout the continent. SPIRE has the ambition to establish 50 Hubs for Circularity by 2050, of which 15 should be in place by 2030. This development will require collaboration and support between public authorities and the private sector, as well as appropriate and enforced regulations at all levels (EU, Member States, regions, cities).

Multiplying these “Hubs” will further drive our economies towards a “zero-waste-to-landfill” ambition for recyclable/recoverable waste in the European Union – to be achieved by 2050 at the latest. This paradigm shift will require validated and competitive technologies by 2030, as well as an enabling and consistently well-enforced regulatory framework.

The creation of the Hubs for Circularity needs numerous projects and investments in the coming years in order to achieve:



Maximizing efficiency in terms of (non-renewable) primary resources consumption;



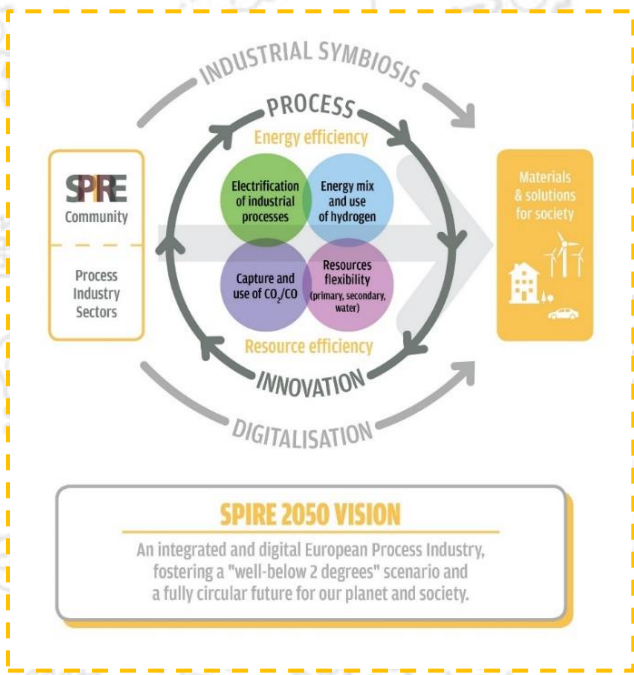
Full re-use, recycling or recovery of waste (materials, water, heat, etc.) as alternative resources, instead of being landfilled, incinerated or discharged;



The capture, collection, storage and use of CO<sub>2</sub> from the industrial exhaust gases to produce fuels, chemicals or various (building) materials;



Achieving first industrial symbiosis, the industrial-urban symbiosis, in order to reduce the CO<sub>2</sub> emissions from the industrial clusters located near the (larger) EU cities. These two last topics are transversal, also helping to achieve the SPIRE “Bridging the Climate Technological Gap” ambition.



### SPIRE 2050 VISION

An integrated and digital European Process Industry, fostering a “well-below 2 degrees” scenario and a fully circular future for our planet and society.