SPIRE 2050

Hubs for Circularity (H4C)

EIT RawMaterials CIRCUIT workshop, Circular Cities

Brussels, 10 October 2019

SPIRE 2050 ambitions

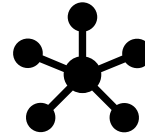**SPIRE** — Sustainable Process Industry through Resource and Energy Efficiency

HUBS FOR CIRCULARITY (H4C)

One of our tools to accelerate the three ambitions

Territorial connection: regions, cities, communities

Closing the climate technological gap

Development of the required solutions to fully contribute to the EU Climate Neutrality scenarios

2015
-37% in $CO_{2éq}$ emissions versus 1990

2030
key technologies of SPIRE Vision 2050 ready for deployment (TRL9)

2050
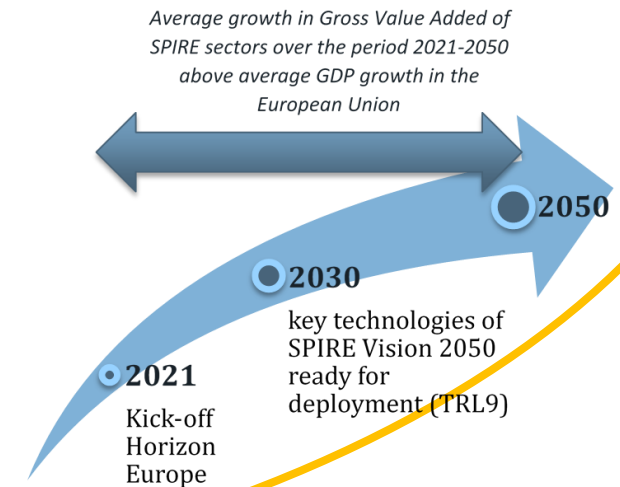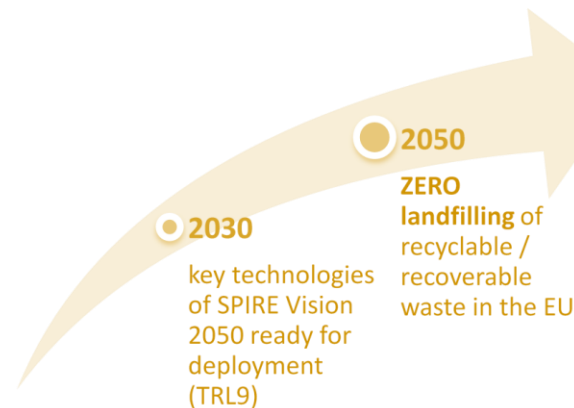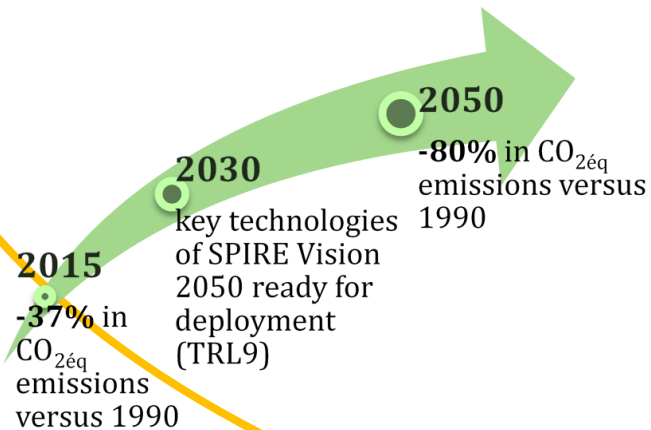-80% in $CO_{2éq}$ emissions versus 1990

Circular Resources for zero-landfilling

Spread the Hubs for Circularity across Europe to develop the required solutions to **move towards zero-waste-to-landfill**.
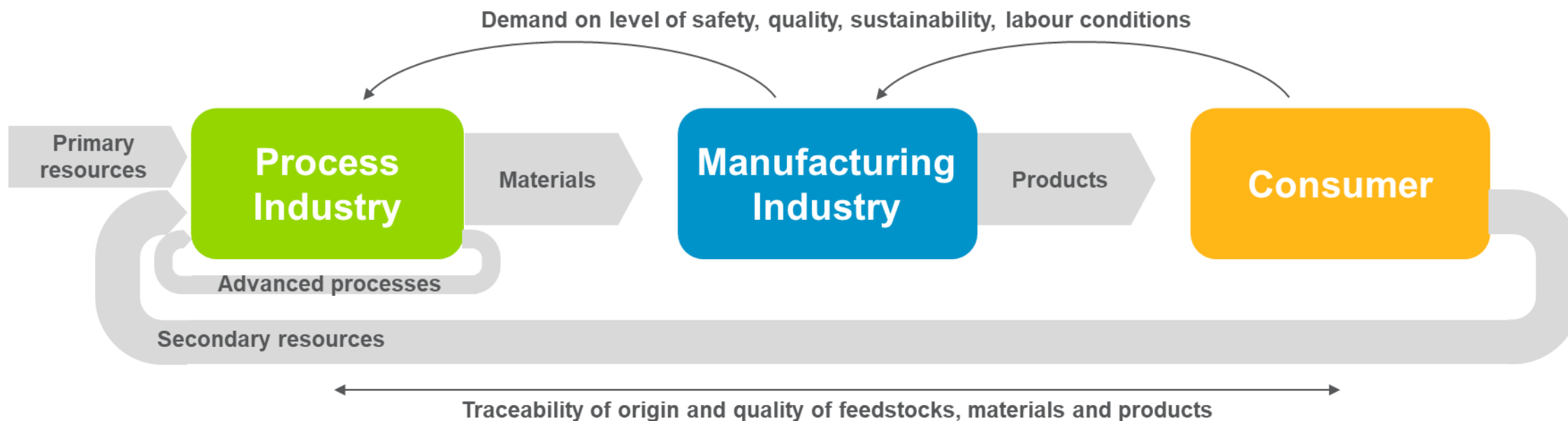
2030
key technologies of SPIRE Vision 2050 ready for deployment (TRL9)

2050
ZERO landfilling of recyclable / recoverable waste in the EU

Global competitiveness

Development of technologies which create new investment opportunities for globally competitive EU Process Industries

Average growth in Gross Value Added of SPIRE sectors over the period 2021-2050 above average GDP growth in the European Union

2021
Kick-off Horizon Europe

2030
key technologies of SPIRE Vision 2050 ready for deployment (TRL9)

2050

Consumer demand drives changes in process industries & triggers improved traceability

Demand on level of safety, quality, sustainability, labour conditions

Primary resources → **Process Industry** → Materials → **Manufacturing Industry** → Products → **Consumer**

Advanced processes

Secondary resources

Traceability of origin and quality of feedstocks, materials and products

HUBS FOR CIRCULARITY (H4C)
RATIONALE

- Process industries can **reintroduce bulk amounts of resources into the industrial process,** avoiding waste-to-landfill

- **Objectives alignment** of EU regions and SPIRE 2050 Vision: zero-waste, climate neutrality and competitiveness.

- **High potential for synergies** by connecting the local stakeholders (process industries, other sectors, public sector and civil society) within the regions and across regions.

HUBS FOR CIRCULARITY (H4C)
THE CONCEPT

A SPIRE "HUB FOR CIRCULARITY" IS DEFINED AS:

a focal point of interconnected industrial (large companies as well as SMEs) and/or public facilities, within a given geographical area, that collectively achieve a demonstrable level of circularity and carbon neutrality in their use of resources (including feedstock as well as energy and water) whilst boosting global competitiveness of the EU Process Industry and sustainable growth.

The H4C will become the new business centres of the future:

- Act as a competence and resource hub developing RDI initiatives

- Set up a voluntary industrial and social culture of emissions and waste reduction

- Driven by Process Industry and connecting their solutions to territorial demands

- Set up a Business to Territory (B2T) Plan

- Connected to other sectors and regions

HUBS FOR CIRCULARITY (H4C)
THE ELEMENTS

Hub for Circularity

Regional Community

- Process industry
- SMEs
- Other sectors
- RTOs
- Civil society
- Financial institutions
- Etc.

Regional Benefits

- Knowledge sharing
- Competences sharing
- Joint business development
- Job development
- Identifying demands together (societal, customer, stakeholder)

Regional RDI initiatives

Disruptive & breakthrough innovation:

- Technology
- Processes
- Business models
- Social innovation

Regional Demands

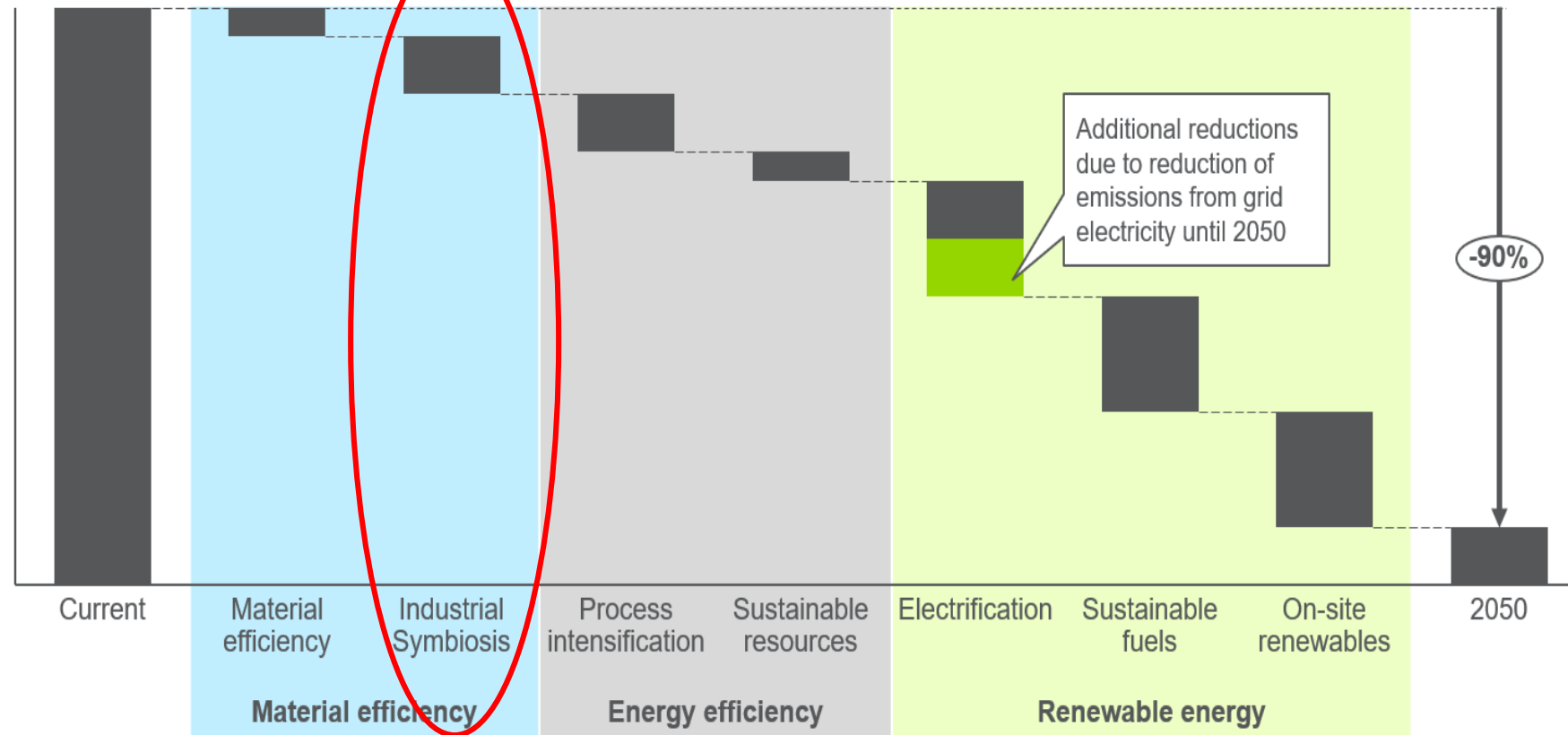- Societal needs
- Customer needs
- Stakeholder demands

HUBS FOR CIRCULARITY (H4C)
TYPES/STAGES IDENTIFIED

Starting Hubs	Intermediate Hubs	Advanced Hubs	Mature Hubs
They need support and specific HR to create the structure, agenda and business to territory (B2T) plan (e.g.: funding for a specific period to create a feasibility study and the business to territory plan as in SME instrument, while the period should be adapted to the reality of the H4C which include a wider number of actors – public, private and social - and will require a longer period of analysis and agreement)	**Hubs which have already established a good inventory of problems and opportunities** Partners have engaged actively and adhere to a common vision for the hub. An initial value proposition and business to territory plan are defined (while review could be needed). They need to set up their governance structure and transition to make the hub-culture modus operandi a full reality.	**They already have a structure, and a plan that they are implementing but need support to accelerate the transition.** Such support should allow them to boost synergies and maximise impact. Adequate metrics and progress measurement should indicate clearly an impact on Industrial-Urban symbiosis with measured benefits on Climate, Waste and competitiveness.	**These are hubs which have already reached a level of maturity that allows them to be even more ambitious and expand their impact.** All the SPIRE H4C should aim to reach this level and this should be reflected in their "business to territory plan". Currently there are models as Kalundborg Symbiosis which can be taken as a lighthouse and reference and which could be connected to SPIRE H4C.

Process industry relies on many measures to reduce its carbon emission intensity

CO_2 emissions intensity per tonne of material produced

Additional reductions due to reduction of emissions from grid electricity until 2050

-90%

Current | Material efficiency | Industrial Symbiosis | Process intensification | Sustainable resources | Electrification | Sustainable fuels | On-site renewables | 2050

Material efficiency | **Energy efficiency** | **Renewable energy**

HUBS FOR CIRCULARITY (H4C)
JOINT AGENDA: INDUSTRY + PUBLIC + SOCIETY

BUSINESS TO TERRITORY (B2T) PLAN

- **A H4C business model** should be defined, including the different phases of development needed.
- Focus on "**tailored made pathways**" and on investments that shape the territory (not about single projects).
- **Investments commitment** (private and public –from local/regional/national origin-) including a consortium approach to mitigate risk and accelerate financing and development

GOVERNANCE

- A **governance tool to coordinate actions** and flow of information within the hub and with other hubs needs to be in place (e.g.: a coordination centre, an excellence innovation centre, an innovation table, etc…)
- **HR**: specific expertise to generate the hub-culture modus operandi.
- Clear involvement of industry, local/regional government and civil society

CO-INVESTMENTS FRAMEWORK

- **Clear EU support needed** to launch and develop the H4C (SPIRE calls for specific funding tool/s within HEU)
- **Strong co-investment model** from different public (MS, regions…) and private actors (industry, civil society) to de-risk the innovations needed and deliver a positive impact for the citizens and the regions.

Connecting the H4C across borders and to citizens

- H4C: connected to other stakeholders & hubs
- Circular flows: widespread reality across Europe
- Critical mass of knowledge, solutions & unexpected ideas
- Innovative brains and talent working together across regions

CONTACT US: info@spire2030.eu
www.spire2030.eu