EUROPEAN CLUSTER CONFERENCE 2020

10-11 NOVEMBER 2020 | BRINGING TOGETHER THE CLUSTER COMMUNITY

Ecosystem session: ENERGY INTENSIVE INDUSTRIES

Clusters strengthening ecosystems

European Commission

EUROPEAN CLUSTER COLLABORATION PLATFORM

Federal Ministry for Economic Affairs and Energy

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Clusters and ecosystems breakout session

Energy Intensive Industries Ecosystem

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European Commission

EUROPEAN CLUSTER COLLABORATION PLATFORM .eu

Federal Ministry for Economic Affairs and Energy

Policy context

The ecosystem approach to industrial policy

- The communication "A new industrial strategy for Europe" (March 2020):

> *"ecosystems encompass all players operating in a value chain: from the smallest start-ups to the largest companies, from academia to research, service providers to suppliers".*

- The Commission SWD Identifying Europe's Recovery Needs (May 2020):

> *"The notion of Ecosystems captures the complex set of interlinkages among sectors and firms spreading across countries in the Single Market […]. They allow for a bottom-up approach that takes into account specificities of business models, high percentage of vulnerable players (SMEs and micro) and interdependencies."*

Industrial Ecosystems in Europe

Industrial Ecosystems for the Recovery

Tourism
- Passenger transport and travel
- Hotels, short term accommodation
- Restaurants and catering
- Events, theme parks

Proximity & Social Economy
- Social enterprises, associations and cooperatives aiming at generating a social impact, often proximity based

Creative & Cultural Industries
- Newspapers, books and periodicals
- Motion picture, video and television
- Radio and music

Retail
- Retail sales
- Wholesale connected to consumers

Aerospace & Defence
- Aircraft production
- Space manufacturing and services
- Defense products and technologies

Construction
- Building of residential and non-residential estates
- Building of roads and railways,
- Building of utilities and civil engineering
- Associated activates

Textiles
- Production of textiles, wearing apparel, footwear, leather and, jewellery

Digital
- Telecommunications
- Software publishing, computer programming and consultancy
- Data processing, hosting, web portals
- Manufacturing of computers, communication equipment and consumer electronics

Electronics
- Raw starting materials (semiconductor wafers)
- Semiconductor manufacturing tools
- Design and manufacturing of semiconductor components

Health
- Pharmaceuticals and other medical products
- Personal protective equipment
- Medical services, hospitals, nursing homes, residential care

Mobility - Transport - Automotive
- Production of motor vehicles, ships and trains, and accessories
- Their repair and maintenance
- Transport

Agri-Food
- Plant and animal production
- Processing of food

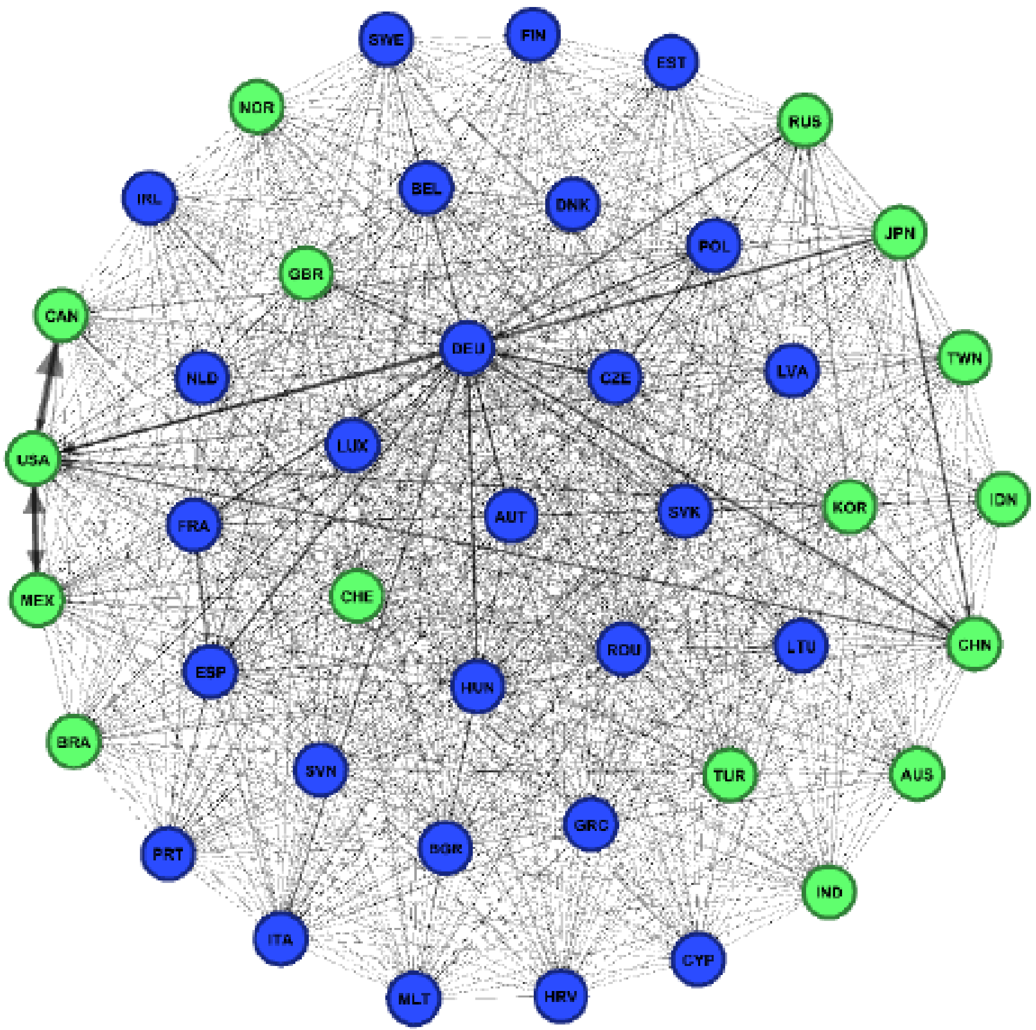
Renewable Energy
- Electric motors, engines and turbines
- Electric power generation
- Manufacturing and distribution of gas

Energy-Intensive Industries
- Raw materials
- Manufacturing of products with high environmental impact: chemicals, iron and steel, forest-based products, plastics, refining, cement, rubber, non-ferrous metals, fertilisers, etc.

The ecosystem approach in practice

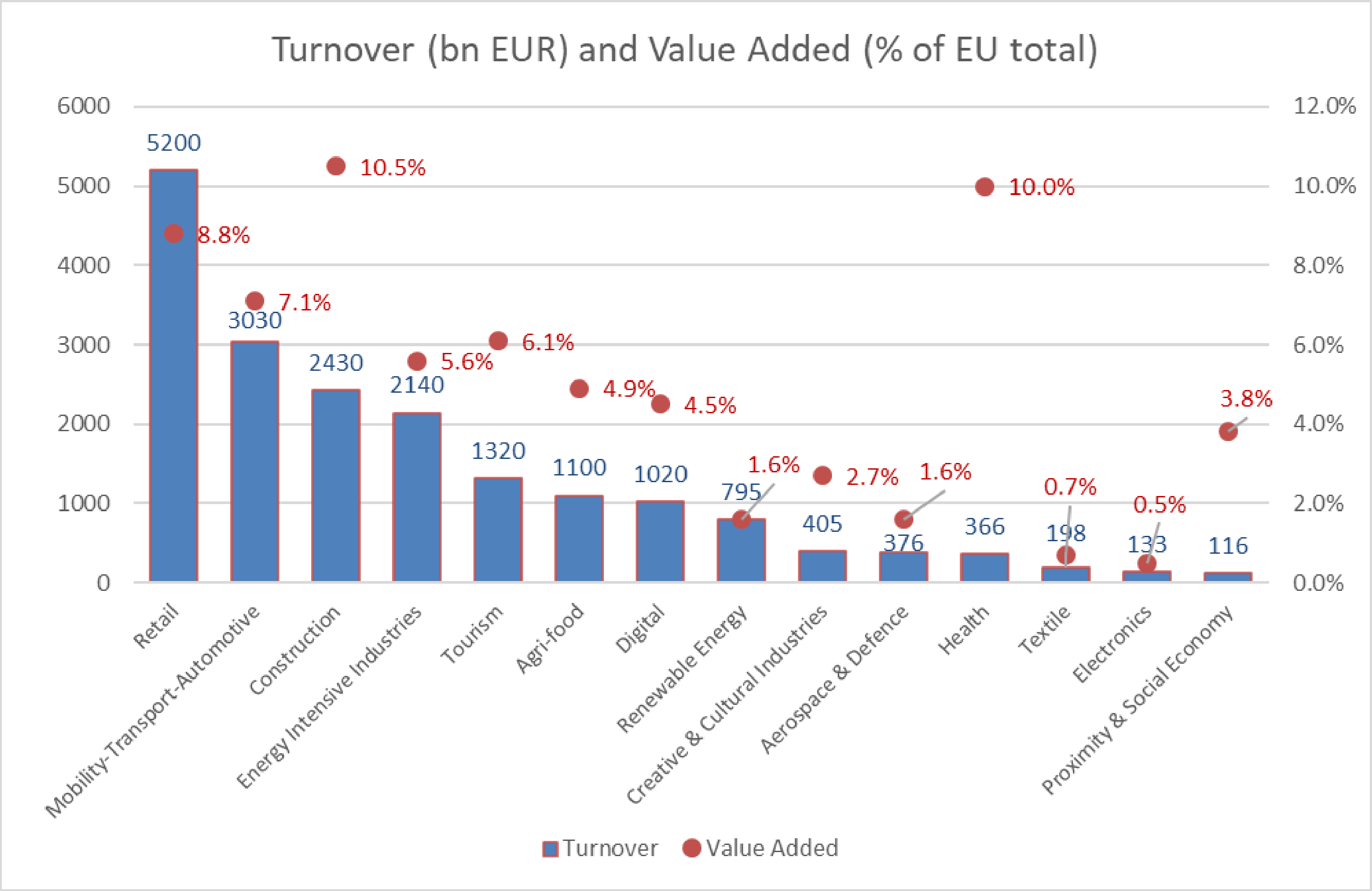
- Ecosystems as networks rather than (value) chains:
  - Map the complex links across firms, sectors and institutions.
- Ecosystems include both private and public activities.
  - Public institutions and research centres as key actors in their interactions with firms.
- Ecosystems evolve continuously.
  - Not meant as a fixed unit of observation.

Example: Global automotive network

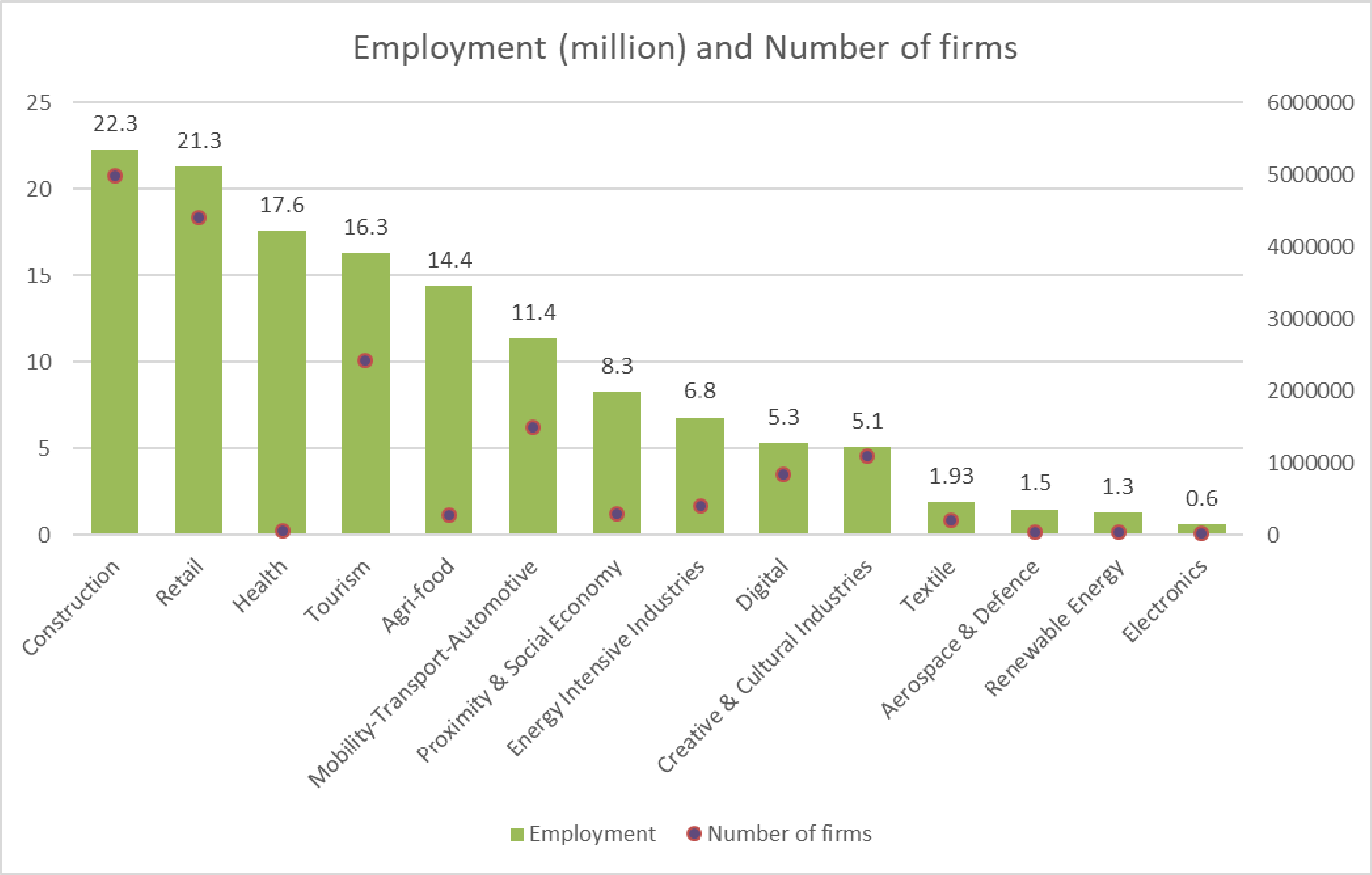


Source: Rungi (2020), based on WIOD data

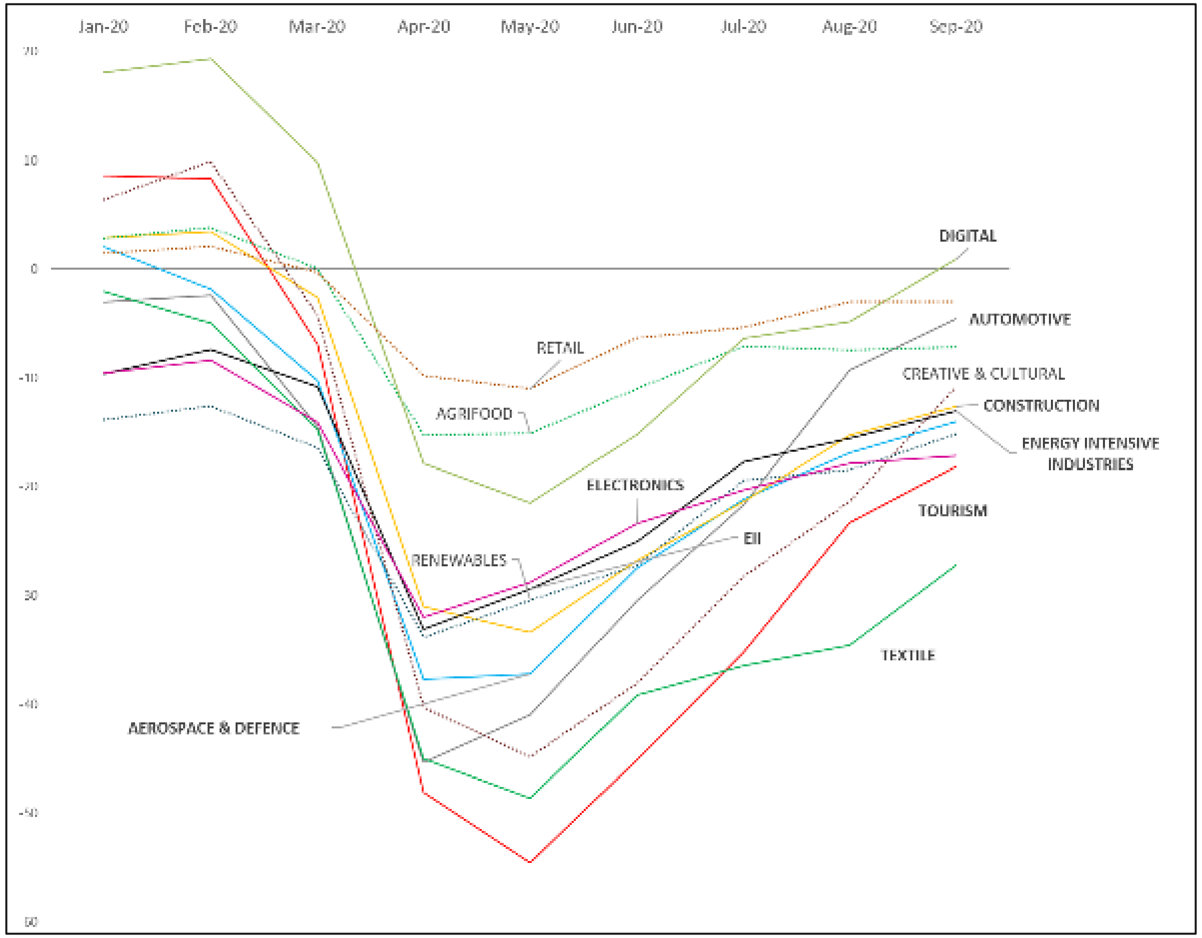
Measuring Industrial Ecosystems (1/2)



Measuring Industrial Ecosystems (2/2)



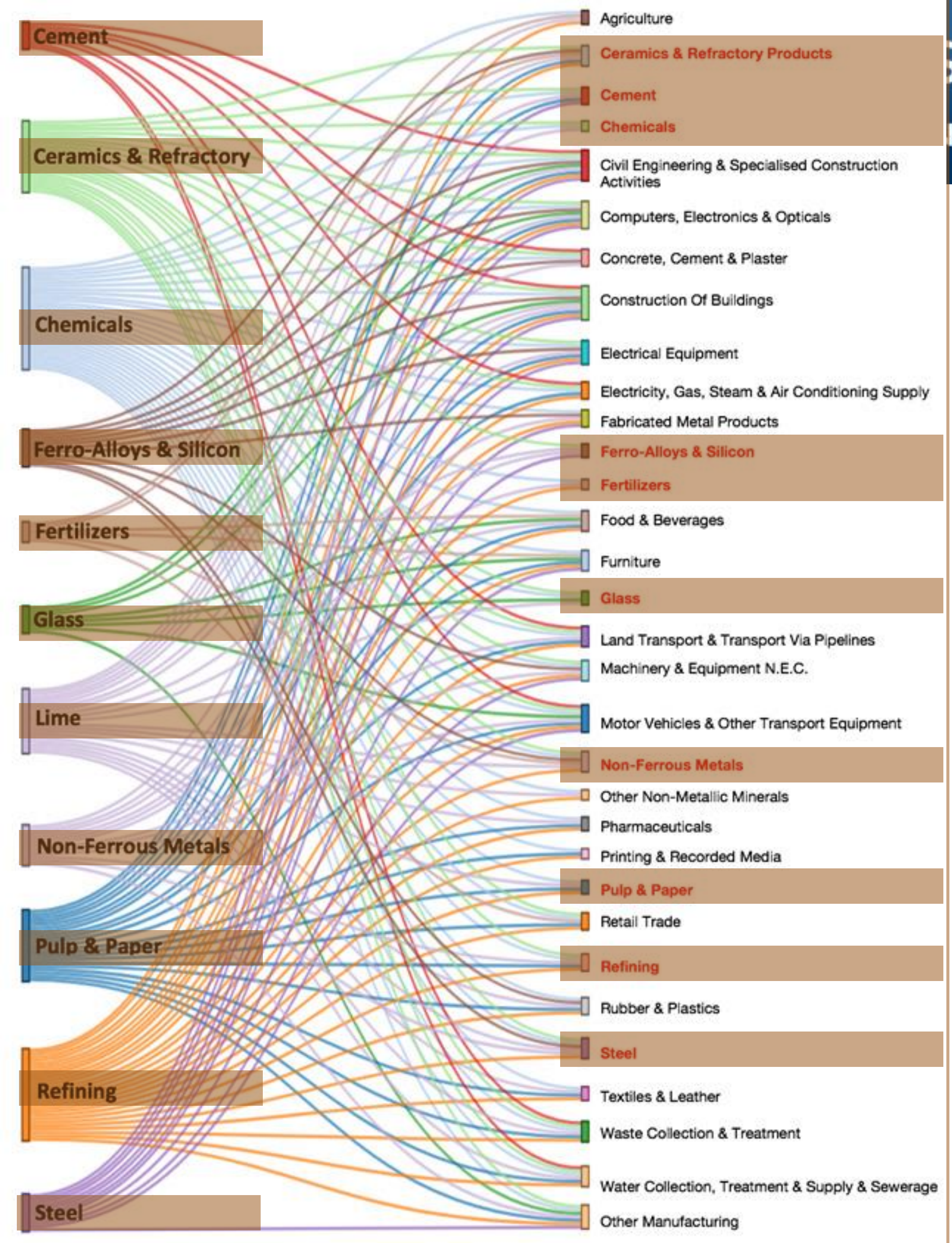
Evolution of the Confidence Indicator by Ecosystem



- Most ecosystems display negative confidence in September 2020, but improving;
- “Tourism” is the hardest hit, followed by “Textile”;
- Durable goods (as reflected in the ecosystems, “Mobility-Transport-Automotive”, and “Construction”

Source: GROW.A1 elaborations on data by the Joint Harmonised EU Programme of Business and Consumer Surveys.

Note: Data cover only partially the ecosystems “Retail”, “Agrifood”, “Renewables” and “Creative & Cultural”, which are represented by dotted lines. For “Health” and “Social Economy” there are not enough NACE2 codes to measure the confidence indicators, so they are not included in the analysis.



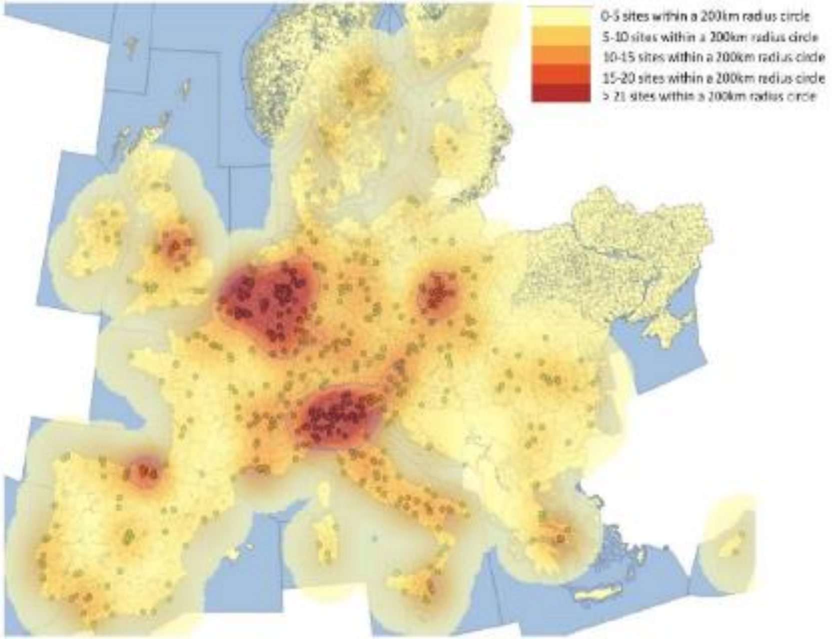
Energy-Intensive Industries:

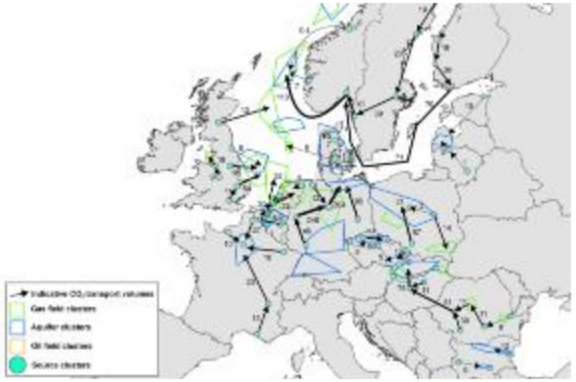
1. Make up more than half of the energy consumption of the EU industry.

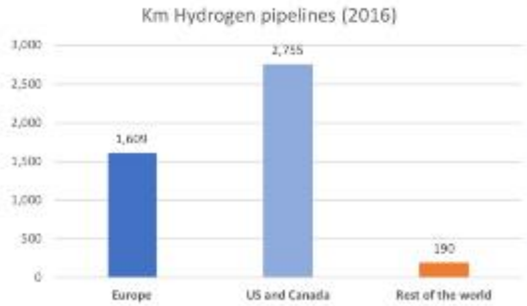
2. Are at the heart of the EU value chains. Their products are needed for low-carbon solutions enabling the transition to climate-neutrality.

3. Share the ambition of the Paris Agreement, recognise the size of the transformation challenge and the opportunities it brings.

Infrastructure challenges







Need for (future) infrastructure mapping: start bottom up (clusters), identify EU industrial projects of common interest

Clusters strengthening ecosystems
Energy Intensive Industries

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Plastipolis
PLASTICS AND COMPOSITES COMPETITIVENESS CLUSTER

European Commission | EUROPEAN CLUSTER COLLABORATION PLATFORM | Federal Ministry for Economic Affairs and Energy

Plastipolis: Facts & figures



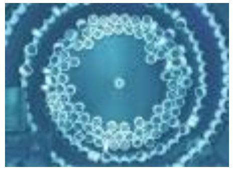

Established in 2005

- **Plastics, composites & polymers**
- **350+ members** including **250 firms**
- **200 achieved or ongoing projects for 500 M€**
- **35 European projects**
- **Gold label since 2013**

Technology strategic domains


Performant and innovative processes


Sustainability and eco-design


Advanced materials


Smart plastics products

Digital factory

HEXCEL, INEOS STYROLUTION, SOLVAY asking more from chemistry, BLUESTAR SILICONES, PolyOne, Axens Powering integrated solutions, TORAY Innovation by Chemistry, ARKEMA

Faiveley PLAST, GERGONNE, BILLION, ADDIPLAST GROUP, RADIALL, mihb, VitasheetGroup, GPack, Georges PERNOUD Le Groupe, PORALU MARINE, SINTEX NP GROUP

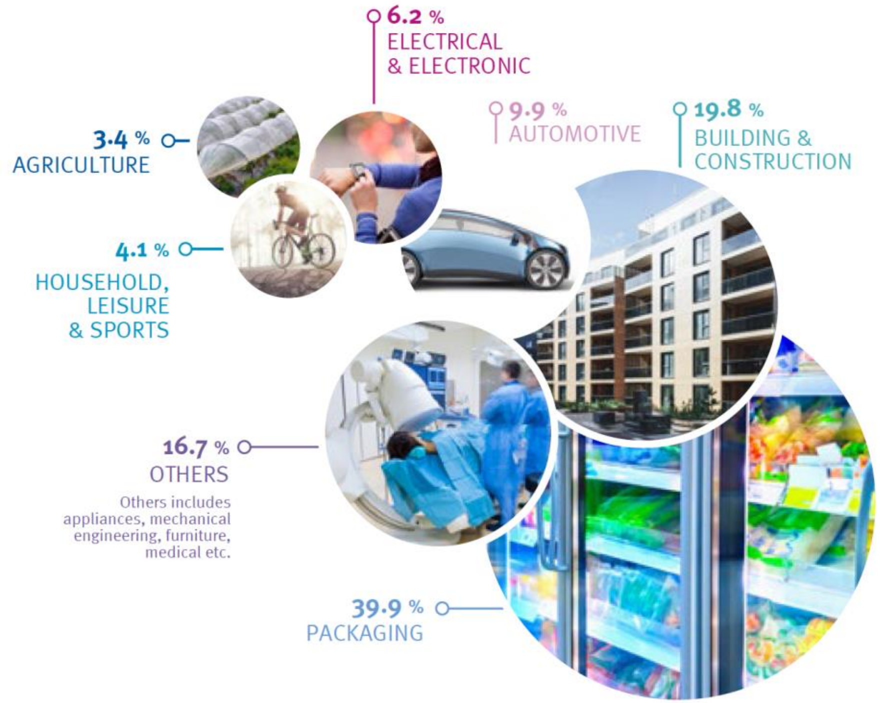
ALBÉA, Schneider Electric, WOO DOO, salomon, Grosfillex, PLASTIC OMNIUM, Gerflor, LVMH RECHERCHE PARFUMS & COSMETIQUES

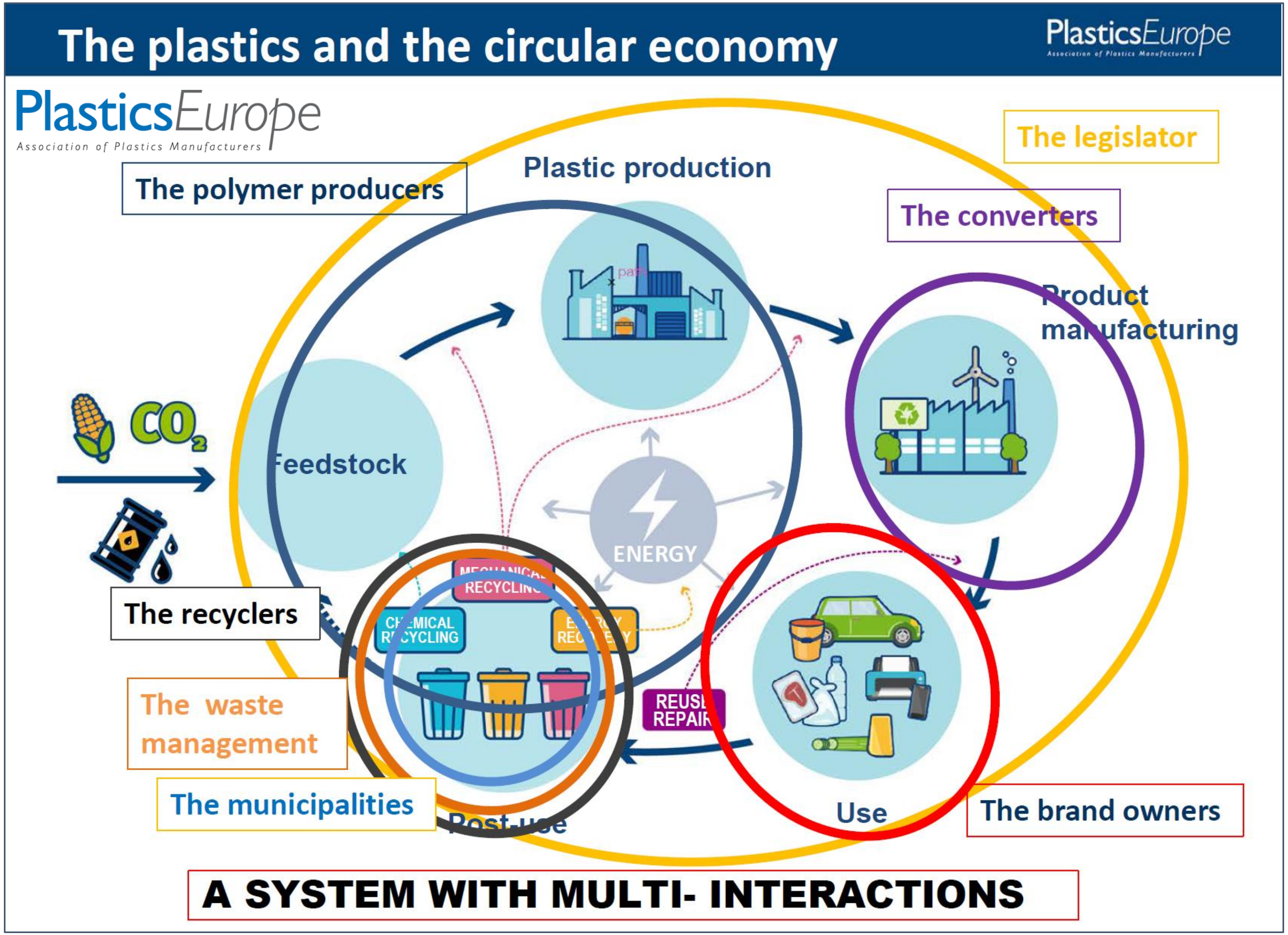
Lyon Polymer Science Engineering, Lyon 1, Grenoble INP, ÉCOLE CENTRALE LYON, INSA LYON, Plasti CAMPUS, Innovation Plasturgie Composites, femto-st, Axel'One, cea

Plastics industry

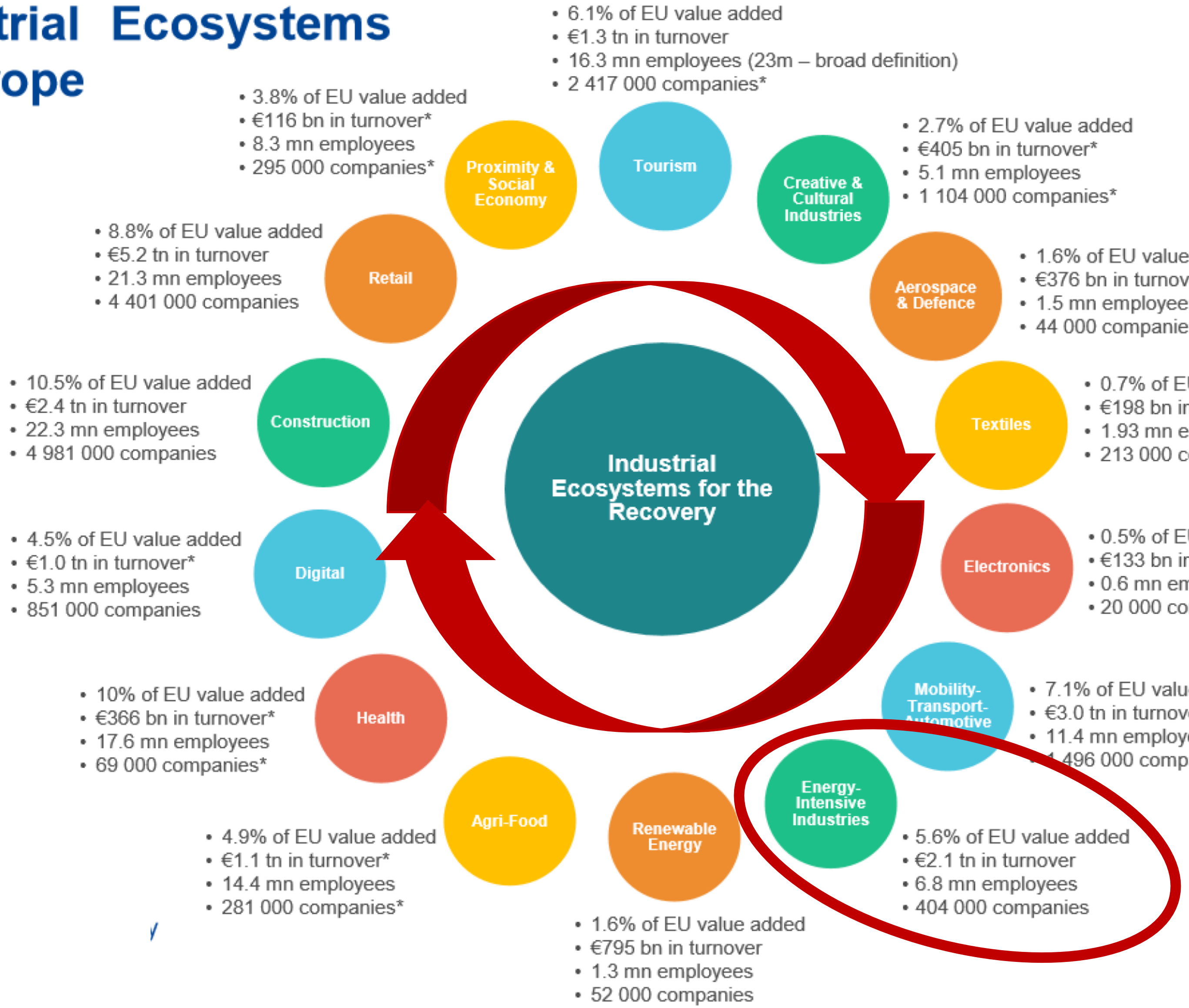
European figures:

- 60,000 companies
- 1,6 M employees
- 350 B€ turnover





Industrial Ecosystems in Europe



Energy Intensive Industries in Europe

Sector metrics – only for the purpose of prioritising (sources: [6 7])	Final energy consumption	Economic[8] potential savings by 2030 (payback <=2 year)	Technical[9] potential savings by 2030	Energy[10] cost/ Value Added	No. of employed	Value added, gross
Sector	Mtoe/y	Mtoe/y	Mtoe/y		Million	€ billion
Pulp and paper	34.3	1.1	7.2	16%	1.43	79.0
Iron and steel	50.8	2.9	16.3	36%	0.63	39.7
Non-metallic mineral	34.2	1.2	7.1	23%	1.29	63.9
Chemical and pharma.	51.5	2.6	16.5	12%	1.72	229.8
Non-ferrous metal	9.4	0.5	1.9	23%	0.46	23.7
Petroleum refineries	44.7	1.7	10.6	44%	0.12	24.3
Food and beverage	28.4	1.4	6.8	10%	4.53	251.4
Machinery	19.3	1.0	5.3	3%	9.03	579.8
Total	**272.5**	**12.4**	**71.7**			

Including plastics & polymers

Workshop on "Continuing efforts to make EU industry less energy intensive and more competitive" – Brussels, June 2018

Plastics industry

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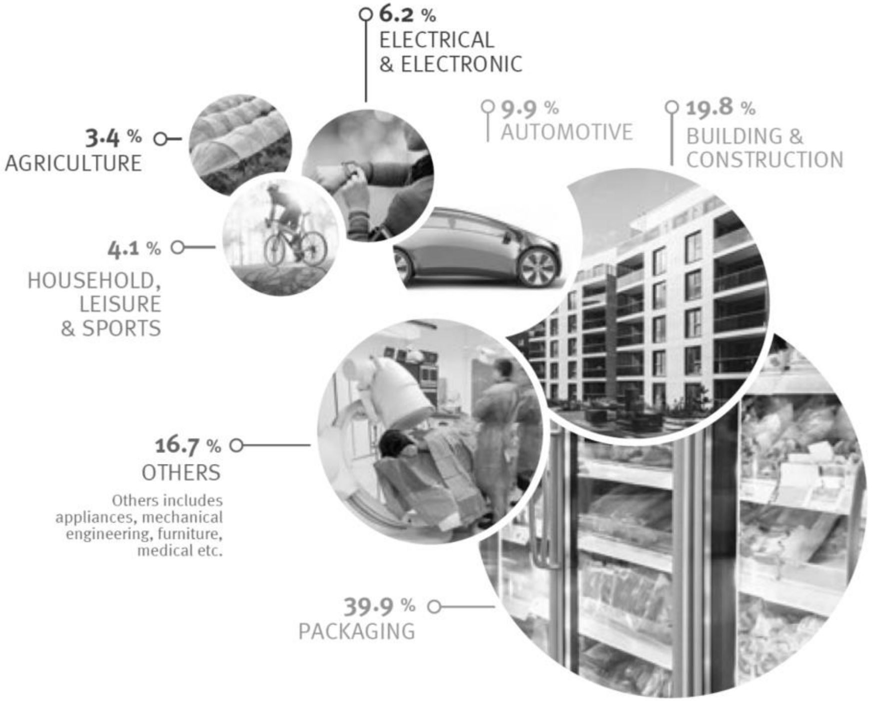

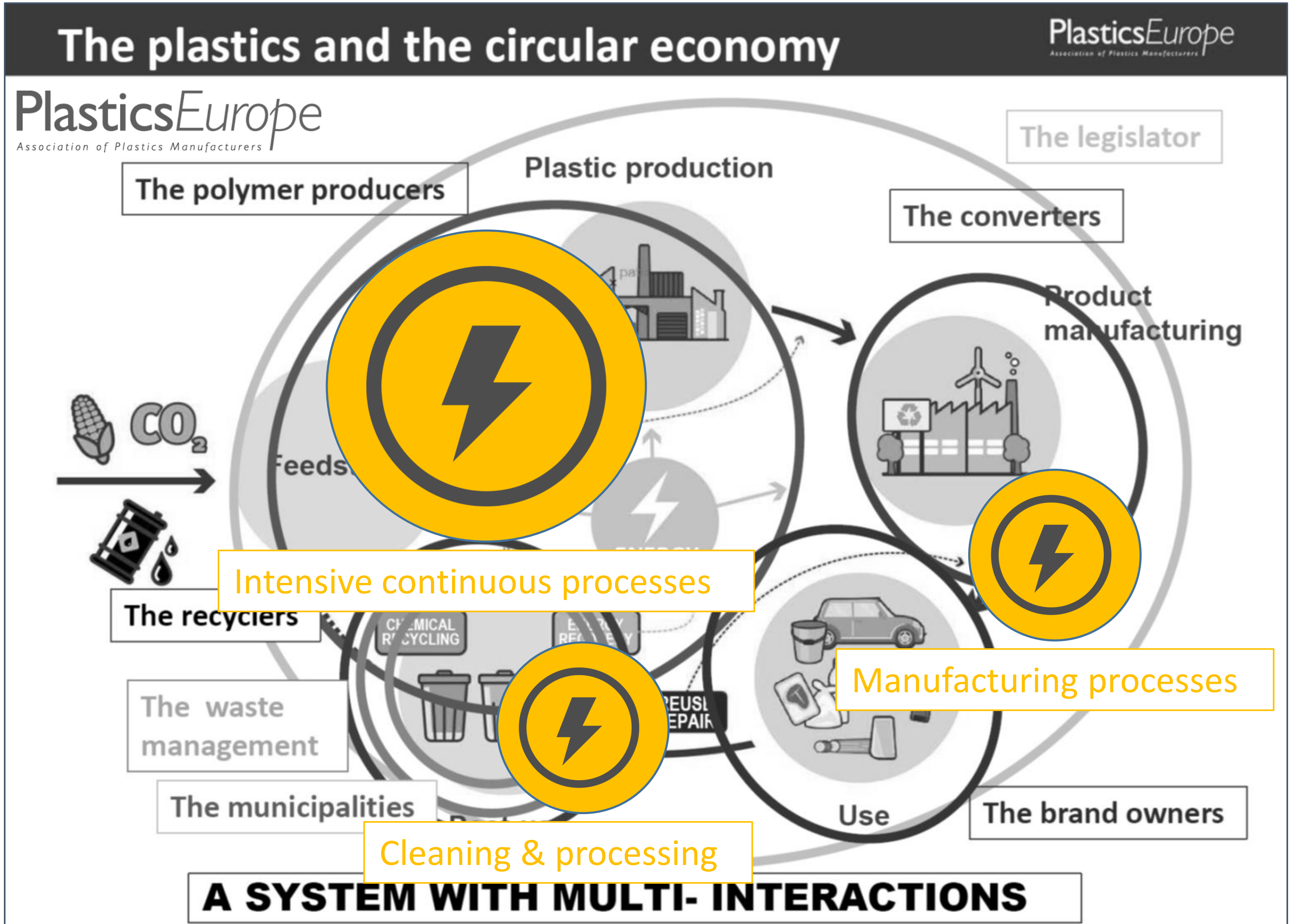

Recovery plan at cluster level

Area 1: Increasing Climate Ambition - Cross sectoral challenges

- Topic 1.1: Preventing and fighting extreme wildfires with the integration and demonstration of innovative means
- Topic 1.2: Towards climate-neutral and socially innovative cities
- Topic 1.3: Climate-resilient innovation packages for EU regions

Area 2: Clean affordable and secure energy

- Topic 2.1:Demonstration of innovative critical technologies to enable future large-scale deployment of offshore renewable energy technologies (with the possibility to address also hydrogen applications)
- Topic 2.2: Develop and demonstrate a 100 MW electrolyser upscaling the link between renewables and industrial applications

Area 3: Industry for a clean and circular economy

- Topic 3.1: Closing the industrial carbon cycle to combat climate change
- Topic 3.2: Demonstration of systemic solutions for the territorial deployment of the circular economy

Area 4: Energy and resource efficient buildings

- Topic 4.1 : Building and renovating in an energy and resource efficient way

Area 5: Sustainable and smart mobility

- Topic 5.1 : Green airports and ports as hubs for sustainable and smart mobility

Area 6: From Farm to fork

- Topic 6.1 : Testing and demonstrating systemic innovations in support of the Farm-to-Fork Strategy

Area 7: Ecosystems and Biodiversity

- Topic 7.1 : Restoring biodiversity and ecosystem services

Area 8: Zero-pollution, toxic free environment

- Topic 8.1 : Innovative, systemic zero-pollution solutions to protect health, environment and natural resources from persistent and mobile chemicals
- Topic 8.2 : Fostering regulatory science to address chemical and pharmaceutical mixtures: from science to evidence-based policies

Area 9: Strengthening our knowledge in support of the European Green Deal

- Topic 9.1 : European Research Infrastructures capacities and services to address European Green Deal challenges
- Topic 9.2 : Developing end-user products and services for all stakeholders and citizens supporting climate adaptation and mitigation
- Topic 9.3 : A transparent and accessible ocean: towards a Digital Twin of the Ocean

Area 10: Empowering citizens for the transition towards a climate neutral, sustainable Europe

- Topic 10.1: European capacities for citizen deliberation and participation for the Green Deal
- Topic 10.2: Behavioural, social and cultural change for the Green Deal
- Topic 10.3: Enabling citizens to act on climate change and environmental protection through education, citizen science, observation initiatives, and civic involvement

Area 11: International cooperation

- Topic 11.1 : Accelerating the green transition and energy access Partnership with Africa

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Recovery plan at cluster level

European Commission

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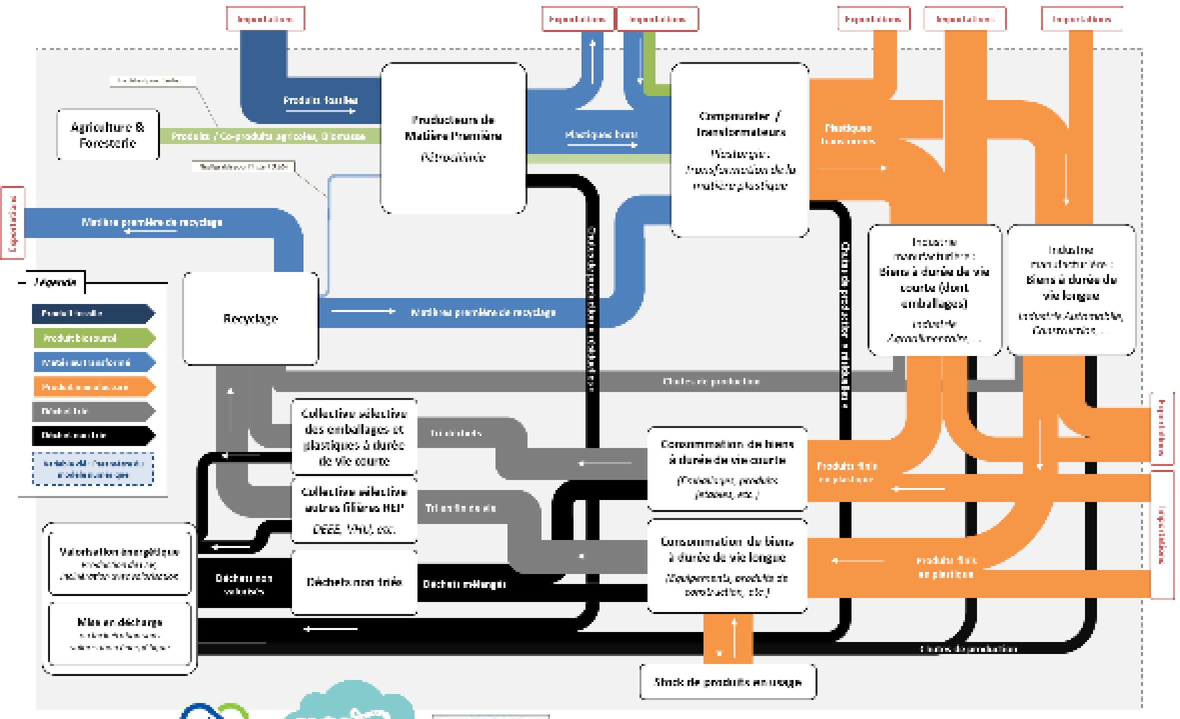
Topics of interest at cluster level from webinars and interviews

Examples of connection at regional level

- Analysis and redesign of industrial value chain toward circular economy



Region Hauts-de-France

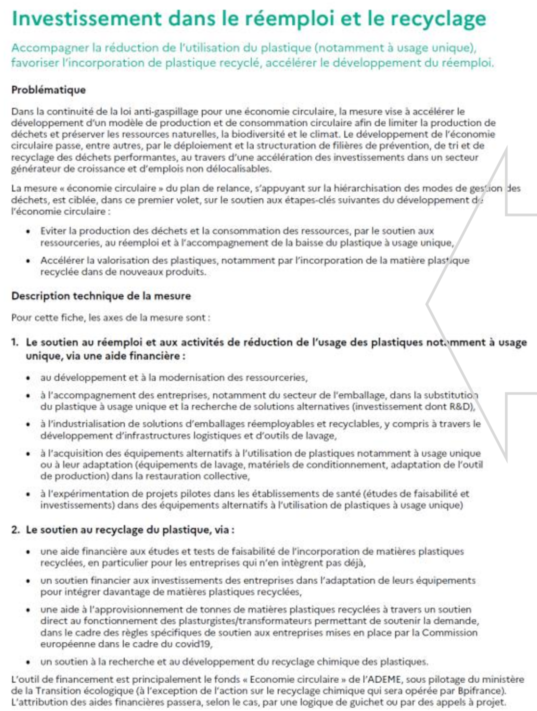
rev3 LA 3ème RÉVOLUTION INDUSTRIELLE EN HAUTS-DE-FRANCE

ADEME

- Program for accelerating the green transition of SMEs of plastics and composites

National program

FRANCE RELANCE



Investissement dans le réemploi et le recyclage

Accompagner la réduction de l'utilisation du plastique (notamment à usage unique), favoriser l'incorporation de plastique recyclé, accélérer le développement du réemploi.

Problématique

Dans la continuité de la loi anti-gaspillage pour une économie circulaire, la mesure vise à accélérer le développement d'un modèle de production et de consommation circulaire afin de limiter la production de déchets et préserver les ressources naturelles, la biodiversité et le climat. Le développement de l'économie circulaire passe, entre autres, par le déploiement et la structuration de filières de prévention, de tri et de recyclage des déchets performantes, au travers d'une accélération des investissements dans un secteur générateur de croissance et d'emplois non délocalisables.

La mesure « économie circulaire » du plan de relance, s'appuyant sur la hiérarchisation des modes de gestion des déchets, est ciblée, dans ce premier volet, sur le soutien aux étapes-clés suivantes du développement de l'économie circulaire :

- Eviter la production des déchets et la consommation des ressources, par le soutien aux ressourceries, au réemploi et à l'accompagnement de la baisse du plastique à usage unique,
- Accélérer la valorisation des plastiques, notamment par l'incorporation de la matière plastique recyclée dans de nouveaux produits.

Description technique de la mesure

Pour cette fiche, les axes de la mesure sont :

1. **Le soutien au réemploi et aux activités de réduction de l'usage des plastiques notamment à usage unique, via une aide financière :**
   - au développement et à la modernisation des ressourceries,
   - à l'accompagnement des entreprises, notamment du secteur de l'emballage, dans la substitution du plastique à usage unique et la recherche de solutions alternatives (investissement dont R&D),
   - à l'industrialisation de solutions d'emballages réemployables et recyclables, y compris à travers le développement d'infrastructures logistiques et d'outils de lavage,
   - à l'acquisition des équipements alternatifs à l'utilisation de plastiques notamment à usage unique ou à leur adaptation (équipements de lavage, matériels de conditionnement, adaptation de l'outil de production) dans la restauration collective,
   - à l'expérimentation de projets pilotes dans les établissements de santé (études de faisabilité et investissements) dans des équipements alternatifs à l'utilisation de plastiques à usage unique)
2. **Le soutien au recyclage du plastique, via :**
   - une aide financière aux études et tests de faisabilité de l'incorporation de matières plastiques recyclées, en particulier pour les entreprises qui n'en intègrent pas déjà,
   - un soutien financier aux investissements des entreprises dans l'adaptation de leurs équipements pour intégrer davantage de matières plastiques recyclées,
   - une aide à l'approvisionnement de tonnes de matières plastiques recyclées à travers un soutien direct au fonctionnement des plasturgistes/transformateurs permettant de soutenir la demande, dans le cadre des règles spécifiques de soutien aux entreprises mises en place par la Commission européenne dans le cadre du covid19,
   - un soutien à la recherche et au développement du recyclage chimique des plastiques.

L'outil de financement est principalement le fonds « Economie circulaire » de l'ADEME, sous pilotage du ministère de la Transition écologique (à l'exception de l'action sur le recyclage chimique qui sera opérée par Bpifrance). L'attribution des aides financières passera, selon le cas, par une logique de guichet ou par des appels à projet.

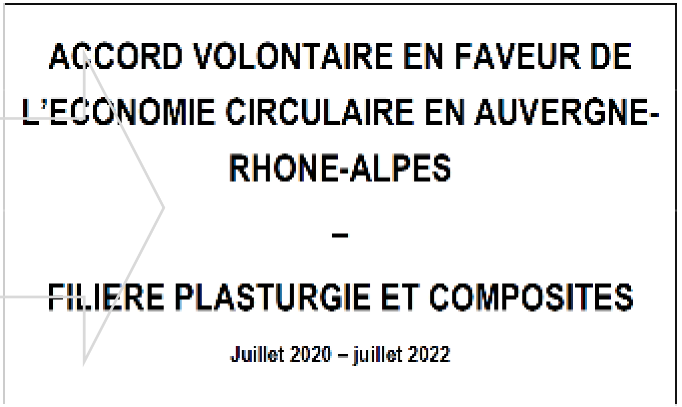
Regional plan

Allizé - Plasturgie

La Région Auvergne-Rhône-Alpes

RÉPUBLIQUE FRANÇAISE

ADEME



ACCORD VOLONTAIRE EN FAVEUR DE L'ECONOMIE CIRCULAIRE EN AUVERGNE-RHONE-ALPES

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FILIERE PLASTURGIE ET COMPOSITES

Juillet 2020 – juillet 2022

ACCORD VOLONTAIRE en faveur de l'ÉCONOMIE CIRCULAIRE en région Auvergne-Rhône-Alpes pour la filière plasturgie et composites