ECOLE NEWSLETTER vol.2

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Welcome to the final ECOLE Newsletter

As the ECOLE project comes to an end, partners from across the Alpine Space are pleased to present the results of over two years of close collaboration. Through pilot sites, thematic LABs, expert-led Masterclasses, and a set of strategic recommendations, the project has supported the shift toward more circular, resilient, and forward-looking industrial systems.

From resource efficiency to governance and supply chains, ECOLE has highlighted the value of combining local initiatives with transnational exchange to advance sustainable industry.

Stay tuned — the tools, approaches, and partnerships developed through ECOLE will continue to inspire and drive progress across the Alpine region and beyond.

Insights from the Pilots

The ECOLE project developed pilot initiatives—referred to as **LABs** to reflect their experimental nature — aimed at testing circular strategies within real industrial park settings across the Alpine region.

They focused on **three areas**: energy and materials, value chains, and governance and knowledge — adapting actions to local needs.

Stakeholder involvement through workshops and visits has been essential to shaping concrete solutions.

A shared evaluation framework based on KPIs helped compare progress and spread good practices across regions. Together, the LABs highlighted how local action can drive wider environmental and industrial transformation.

LAB A: Materials, Energy and Circularity

LAB A addresses key themes such as energy, materials, and circularity, essential elements for building more sustainable and resilient industrial ecosystems.

Across six pilot sites in Italy, Slovenia, Austria, and France, partners are translating circular economy principles into concrete actions, with the goal of reducing environmental impact and enhancing resource efficiency through tailored local strategies.

While each site follows a specific approach, they all share the same ambition: **transforming traditional industrial parks into eco-industrial parks**.

In Verona's Marangona area, ZAI is developing an energy community under a participatory governance model. In Trieste, COSELAG is designing a digital platform for local businesses to exchange energy and waste. In Slovenia, RA SORA is fostering stakeholder involvement and testing waste heat recovery as a circular solution.

The Austrian site in Weiz continues its strong tradition of promoting renewable energy and thermal waste recovery. At the Siemens Technopark, TZE is working to strengthen collaboration and implement targeted energy-saving measures. Meanwhile, in France, POLYMERIS is developing a collaborative waste management system to recover materials and energy, while facilitating the exchange of best practices in circularity.
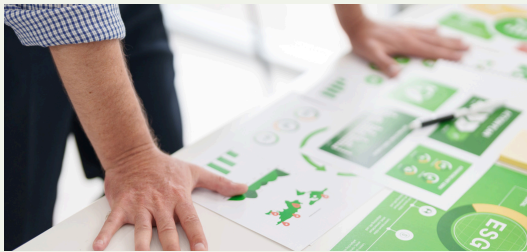
LAB B: Resilience and Sustainability of Value Chains

In today's complex global landscape, building resilient and sustainable value chains is essential for ensuring long-term industrial viability. LAB B investigates how these two principles can be embedded into supply chains within Alpine industrial parks, promoting both operational stability and environmental responsibility.

Rather than viewing industrial parks as isolated production hubs, the pilot sites reimagine them as **interconnected ecosystems** -where businesses, institutions, and communities collaborate, share resources, and innovate together. This relational approach strengthens both **adaptability** and **sustainability**, enabling partners to respond more effectively to disruptions and ecological challenges.

Each pilot site brings its own **strengths**.

In Slovenia, RRALUR is converting waste edible oils into biodiesel, while engaging local actors. In Austria, Wirtschaftsagentur Burgenland is integrating renewables and research-driven sustainability. In Germany, ITALCAM promotes stakeholder collaboration at the CleanTech Innovation Park. In France, Grenoble-Alpes Métropole is working to optimise material flows and foster industrial symbiosis.

Shared Challenges and Common Priorities

Both LAB A and LAB B have revealed recurring **challenges** that affect the implementation of circular economy strategies across Alpine industrial parks. Most notably, the absence of structured governance frameworks continues to hinder effective coordination among stakeholders and delays systemic progress.

Overcoming these barriers requires the prioritisation of inclusive and transparent governance models, greater involvement of local and regional authorities, and the adoption of digital tools to improve transparency, resource tracking, and cross-sector collaboration.

At the same time, there is a shared need to enhance knowledge exchange, expand training activities, and refine methodologies for optimising energy flows, material use, and circular business practices.

The combined efforts of LAB A and LAB B confirm that the transition to resilient and circular industrial ecosystems depends not only on technological innovation, but also on strong partnerships, adaptive governance, and a common vision shared across the Alpine region.

LAB C: Governance and Local Symbiosis

LAB C tackles one of the most strategic dimensions of circular industrial ecosystems: **governance**.

Acting as a platform for analysis and mutual learning, Lab C supports the development of effective, flexible, and sustainability-driven governance models across ECOLE parks. Its goal is to build a network of innovative sites that serve as leaders in applying circular economy strategies.

To achieve this, LAB C promotes the comparison of diverse governance approaches, encouraging knowledge exchange through assessments, workshops, and continuous monitoring using **Key Performance Indicators (KPIs)**.

Rather than prescribing a standard model, it emphasises adaptability, shared benchmarks, and the capacity to engage stakeholders and drive systemic change.

Across ECOLE pilot sites, **four main** governance **types** have been identified: absence of formal structures, public-led, private-led, and hybrid models. Where structures are weak or fragmented, circular initiatives often lose momentum.

To support improvement, LAB C provides a practical framework to assess governance performance—measuring aspects such as leadership, coordination, and stakeholder engagement throughout the transition to eco-industrial models.

By providing practical tools and shared references, LAB C empowers park managers and public authorities to identify gaps, set clear targets, and turn governance into a key enabler of circular transformation.

Masterclass Series: Local Industrial Symbiosis and Governance in Eco-Industrial Parks

To complement the practical work carried out in the LABs, ECOLE launched a series of short Masterclasses designed to explain key concepts behind the transition toward eco-industrial parks. Each session features an expert voice and focuses on one specific topic, offering accessible insights and real-world examples.

The **first episode**, led by Gelda Bogran from project partner TUM International, is dedicated to Local Industrial Symbiosis, showing how companies can collaborate by sharing materials, energy, and by-products, turning waste from one into a valuable resource for another.

The **second episode**, led by Massimo De Domenico, from project partner Fondazione Lombardia per l'ambiente, explores Governance for Eco-Industrial Parks, highlighting how governance frameworks can enable collaboration, innovation, and circularity in Alpine regions.

Both videos are **available online** and can be accessed through the **following link**.

The remaining Masterclass sessions, dedicated to energy, materials and circularity, and to supply and value chain resilience, will be published soon.
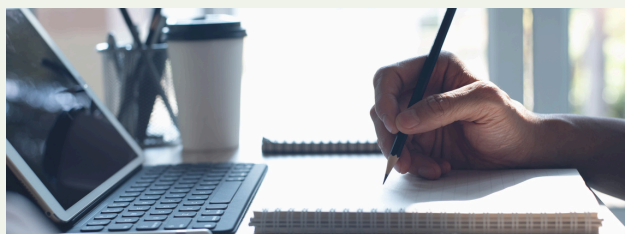
Strategic Recommendations for Circular Industrial Parks

Based on ten pilot experiences across Austria, France, Germany, Italy, and Slovenia, the ECOLE project has outlined **ten key recommendations** to support the shift toward more circular and resilient industrial parks. These are structured around **three main pillars**:

- **Strategic Governance & Collaboration**
Successful transformation starts with solid foundations. The recommendations call for the creation of dedicated coordination bodies and the active involvement of all relevant stakeholders—businesses, local authorities, academia, and communities. Building trust and encouraging cross-sector cooperation is essential to unlock shared value and long-term impact.

- **Innovation & Monitoring**
Driving circularity requires clear goals and ongoing learning. To support this, the use of standard KPIs, structured cost-benefit analysis, and step-by-step roadmaps is encouraged. These tools help measure progress, test new ideas, and guide industrial parks in their circular evolution.

- **Policy Alignment & Support**
Aligning local initiatives with broader EU sustainability goals is essential. Recommendations include promoting industrial symbiosis, supporting circular business models with targeted funding, and ensuring coherence with frameworks like the EU Green Deal.

Together, these recommendations offer a **practical guide** for park managers, policy-makers, and other stakeholders aiming to scale up circular practices across Europe.

Thank you for being part of the ECOLE journey! For further information and future developments, feel free to visit our website.

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