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CREDIT4CE

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CREDIT4CE Project

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1. Executive Summary

The CREDIT4CE Joint Strategy for the Decarbonisation of Manufacturing SMEs sets out a **clear, goal-oriented roadmap** to support small and medium-sized enterprises (SMEs) across Central Europe in their transition towards climate neutrality. SMEs are the backbone of the regional economy, responsible for more than 60% of industrial emissions, yet most lack the tools, data, and financial capacity to decarbonise systematically. Without targeted support, they risk falling behind both regulatory requirements and market expectations driven by supply-chain pressures.

This strategy addresses these challenges by providing a **shared framework across six Central European countries**. It establishes a joint pathway for SMEs to move from awareness to action, supported by harmonised tools, coordinated policies, innovative financing models, and capacity-building programmes. While it builds on the outputs of the CREDIT4CE project, it goes further by defining a **long-term transnational roadmap** consistent with the European Green Deal, Fit for 55, REPowerEU, and national Energy and Climate Plans.

Vision and Goals

The vision guiding CREDIT4CE is that **by 2050 manufacturing SMEs across Central Europe will achieve climate neutrality**, strengthening both their competitiveness and resilience. To realise this vision, the strategy sets out intermediate milestones:

- **By 2027**: widespread awareness of decarbonisation, with most SMEs completing baseline carbon footprinting and energy audits.
- **By 2030**: at least 1,000 SMEs equipped with formalised decarbonisation roadmaps and improved access to financing.
- **By 2050**: climate neutrality achieved across the manufacturing SME sector in the region.

Roadmap and Strategic Pillars

The pathway to these goals is structured into **three progressive phases**:

1. **Awareness & Capacity** (2025–2027) – SMEs are supported in understanding and calculating their emissions, initiating audits, and engaging in training.
2. **Planning & Implementation** (2027–2030) – SMEs develop structured decarbonisation roadmaps, secure financing, and adopt circular economy models.
3. **Scaling & Climate Neutrality** (2030–2050) – decarbonisation practices are mainstreamed across the SME sector, fully aligned with EU climate targets.

To enable this transition, the strategy is organised into **six strategic pillars**:

1. Tools & Monitoring
2. Policy Alignment
3. Innovation & Circular Economy
4. Financing & Investment
5. Education & Capacity Building
6. Communication & Stakeholder Uptake

Each pillar is jointly developed and led by partners, ensuring that the strategy is **co-owned and applied across all partner regions**.

Regional Adaptation and Joint Added Value

The strategy is adapted to the specific context of each partner country, addressing different starting points, barriers, and opportunities. Austria and Slovakia benefit from strong national frameworks but require deeper SME integration; Croatia and Slovenia contribute leadership in circular economy practices; Poland drives forward carbon monitoring tools; and Italy leverages industrial clusters and policy synergies. By working together, the partnership delivers **shared methodologies, cross-border knowledge exchange, and financing opportunities** that no single country could achieve alone.

Governance and Sustainability

Implementation is anchored in **a joint governance structure** centred on the CREDIT4CE Decarbonisation Hub, which will ensure continuity beyond the lifetime of the project. Governance integrates monitoring, evaluation, and stakeholder engagement into a continuous cycle, making the strategy a **living framework** that adapts to evolving policy priorities and market realities.

Long-Term Impact

The CREDIT4CE Joint Strategy contributes directly to European and national climate-neutrality targets by 2050, while reinforcing the competitiveness and resilience of SMEs. Its added value lies in the **transnational dimension**: harmonised tools, shared roadmaps, joint financing, and cross-border networks. In this way, CREDIT4CE transforms project-level outputs into a **scalable strategic framework** that can guide the green transition of manufacturing SMEs across Central Europe.

2. Context & Rationale

2.1. SME´s and Their Role in EU and CE Emissions

Small and Medium-sized Enterprises (SMEs) are the backbone of the European economy, accounting for over 99% of all businesses in the EU and employing around 100 million people. In Central Europe, SMEs are particularly dominant in manufacturing sectors, contributing significantly to regional economic activity. However, their environmental impact is substantial: across the EU, SMEs are responsible for approximately **63% of all business-driven direct CO_2 emissions**.

Despite this, many SMEs struggle to adopt effective decarbonisation strategies. Across Central Europe, the challenges are especially pronounced:

- **Limited carbon accounting**: most SMEs focus only on energy consumption or statutory emission fees, without comprehensive carbon accounting systems.
- **Scarcity of emissions data and tools**: fewer than 20% of SMEs in the region currently use any form of emissions tracking or management tool.
- **Low adoption of decarbonisation roadmaps**: only 17% of SMEs have a formal roadmap or net-zero target, highlighting a critical gap in strategic climate planning.
- **Capacity and resource constraints**: many SMEs lack the expertise, personnel, and financial resources to implement low-carbon solutions, perceiving them as high-risk or cost-prohibitive.
- **Fragmented policy and support structures**: support mechanisms for SME decarbonisation vary widely across countries, creating inefficiencies and limiting cross-border learning.

Given the economic significance of SMEs and their substantial contribution to industrial emissions, addressing this gap is urgent and strategically important. A joint, transnational framework is needed to:

- Establish robust baseline emission inventories.
- Build technical and organisational capacity for effective decarbonisation.
- Facilitate access to financial and advisory resources.
- Support adoption of scalable measures aligned with EU climate objectives (Green Deal, Fit for 55).
- Promote knowledge sharing and peer learning across sectors and borders.

In conclusion, manufacturing SMEs in Central Europe represent both a significant challenge and a unique opportunity in the EU's pathway to net zero. By overcoming structural, technical, and financial barriers, SMEs can become **proactive drivers of decarbonisation**, delivering sustainable growth while contributing to Europe's climate targets.

2.2. Current Gaps and Barriers in SME Decarbonisation

The CREDIT4CE readiness mapping (Deliverable 1.2.1) and stakeholder consultations highlight **five systemic barriers** faced by SMEs across partner countries:

1. **Lack of baseline data**: without robust data on GHG emissions, SMEs cannot set or monitor targets. This hinders strategy development, benchmarking, and access to green finance.
2. **Limited awareness and capacity**: while many SMEs recognise sustainability in principle, decarbonisation is often not prioritised. Actions remain fragmented (e.g. recycling, renewable energy use) and rarely embedded in comprehensive roadmaps.
3. **Financing gaps**: SMEs face barriers in accessing EU or national funds, and private green investment remains underdeveloped in Central Europe. The EU Taxonomy is seen as complex and difficult to apply.
4. **Policy-practice gap**: although national and EU strategies exist, they are rarely translated into SME-level measures. Tailored support, simplified reporting, and practical incentives are lacking.
5. **Innovation bottlenecks**: while research and technologies exist, knowledge transfer to SMEs is weak, and absorptive capacity is low. Cleaner technologies and Environmental Management Systems remain underutilised.

These barriers confirm the need for a stepwise approach: beginning with audits and awareness, progressing to structured roadmaps, and finally enabling financing and innovation adoption.

2.3. Policy framework

The CREDIT4CE Joint Strategy is closely aligned with European and national policy frameworks, ensuring that SMEs are positioned as active contributors to Europe's climate neutrality objectives.

1. *European Green Deal* – the cornerstone of EU climate policy, aiming for net zero by 2050. SMEs are expected to reduce emissions, adopt energy efficiency, integrate renewables, and shift to circular models. For CE SMEs, this is both a regulatory imperative and a competitiveness opportunity.
2. *Fit for 55 Package* – sets a legally binding target of 55% GHG reduction by 2030. SMEs, especially in energy-intensive manufacturing, must adopt structured emissions monitoring, targets, and efficiency measures to align with these reforms.
3. *REPowerEU* – accelerates renewables and energy efficiency, supporting SMEs in retrofitting facilities, adopting renewables, and improving process optimisation.
4. *National Energy and Climate Plans (NECPs)* – all partner countries (Austria, Croatia, Italy, Poland, Slovakia, Slovenia) have committed to emission reductions. However, SME-specific measures remain uneven, with gaps in incentives, technical support, and monitoring. CREDIT4CE addresses these by translating high-level commitments into SME action.

5. *Macro-regional strategies* –
- EUSDR (Danube Region): sustainable energy and SME competitiveness.
- EUSAIR (Adriatic-Ionian): climate resilience and energy transition.
- EUSALP (Alpine): innovation and efficiency through cross-border cooperation.
- EUSBSR (Baltic Sea): green growth and circular economy, relevant for CE exporters.

By embedding SMEs into these frameworks, CREDIT4CE bridges the gap between policy **ambition and SME reality**, ensuring alignment, practicality, and measurable outcomes.

2.4. Why a Joint Strategy is needed

National initiatives for SME decarbonisation exist across Central Europe, but they are fragmented, inconsistent, and often lack scalability. Without coordinated action, SMEs in carbon-intensive or lower-capacity regions risk being left behind, undermining EU-wide climate neutrality goals.

The CREDIT4CE readiness mapping confirmed significant differences across partner countries:

- Austria: strong frameworks but uneven uptake in carbon-intensive clusters.
- Croatia: limited awareness and weak SME-targeted measures.
- Poland: structural barriers due to coal dependency and limited financing.
- Slovenia: leadership in recycling, but lack of structured climate roadmaps.
- Slovakia & Italy: mixed challenges in funding access, awareness, and monitoring adoption.

A joint strategy offers four clear benefits:

1. **Harmonisation of tools** – common calculators, indicators, and reporting templates for consistent measurement and benchmarking.
2. **Cross-border knowledge sharing** – case studies, peer networks, and demonstration visits accelerate learning and reduce costs.
3. **Consistency in policy uptake** – alignment with EU and macroregional strategies ensures SMEs integrate measures seamlessly.
4. **Critical mass for financing and innovation** – coordinated visibility improves access to EU funds, national support, and private investment.

Through CREDIT4CE, fragmented national actions are transformed into a **shared transnational process**. This ensures that SMEs across Central Europe—regardless of starting point—can access structured, goal-oriented support, implement decarbonisation roadmaps, and contribute collectively to Europe’s climate neutrality.

3. Vision & Strategic Goals

3.1. Vision

The CREDIT4CE Joint Strategy is guided by a clear vision:

By 2050, manufacturing SMEs across Central Europe will achieve climate neutrality, becoming competitive, innovative, and resilient drivers of Europe’s green transition.

This vision reflects both the European Green Deal and national commitments under the NECPs, while recognising the critical role SMEs play in achieving these objectives. It positions SMEs not merely as compliance actors but as **leaders of sustainable growth**, capable of reducing emissions, enhancing efficiency, and creating market opportunities.

3.2. Strategic goals

To operationalise this vision, the strategy defines **clear, measurable goals** at three milestones:

- **By 2027** (Awareness & Baselines):
  - 500 SMEs engaged in training and awareness activities.
  - 250 SMEs completing energy audits or carbon footprint assessments.
  - Carbon Calculator used to establish a baseline emissions dataset across partner countries.
- **By 2030** (Planning & Implementation):
  - 1,000 SMEs with formalised decarbonisation roadmaps.
  - 500 SMEs accessing green financing instruments.
  - Widespread adoption of circular economy and resource efficiency practices.
- **By 2050** (Scaling & Climate Neutrality):
  - Climate neutrality achieved across the manufacturing SME sector in Central Europe.
  - Circular economy models mainstreamed in manufacturing supply chains.
  - SMEs fully integrated into EU climate and energy policies, contributing to competitiveness and resilience.

These goals ensure that the CREDIT4CE Strategy is **both ambitious and actionable**, with measurable progress along the way.

3.3. Pathways to Goals - The Three-Phase Roadmap

The pathway to achieving these goals is structured into three progressive phases:

Phase 1: Awareness & Capacity (2025-2027)

SMEs develop awareness of emissions, initiate audits, and engage in training. Tools such as the Carbon Calculator support the creation of baseline data. Role models and case studies demonstrate feasibility and benefits. UASB leads on training, PPNT/WUST provide monitoring tools, CONFEMI supports communication, and SIEA coordinates overall.

Phase 2: Planning & Implementation (2027-2030)

SMEs move from awareness to action by developing structured decarbonisation roadmaps. Financing mechanisms (led by GFO) enable implementation. Circular economy models are integrated with leadership from ZICER and PTP. Policy alignment is strengthened by REGEA and GREENTECH. CONFEMI supports dissemination and uptake.

Phase 3: Scaling & Climate Neutrality (2030-2050)

Decarbonisation becomes mainstream across the SME sector, contributing to full climate neutrality. Innovation and technology transfer are scaled regionally, coordinated through the Joint Decarbonisation Hub. Annual SME Decarbonisation Forums reinforce regional cooperation. All partners contribute to ensuring long-term sustainability and institutionalisation of outputs.

3.4. Transnational Value

The transnational dimension is at the core of the strategy. By acting together, partner countries create added value that no single nation could achieve alone:

- Harmonised methodologies and indicators for consistent monitoring.
- Cross-border peer learning and case study exchange.
- Coordinated policy alignment with EU and macroregional strategies.
- Increased visibility and credibility towards investors and EU-level funding.

This ensures that SMEs across the region benefit from **shared solutions, reduced costs, and accelerated adoption** of low-carbon practices.

3.5. Key Performance Indicators (KPIs)

Progress towards the strategic goals will be measured through a joint monitoring framework:

Indicator	2027 Target	2030 Target	2050 Target
SMEs using Carbon Calculator/monitoring tools	20%	40%	90%
SMEs with decarbonisation roadmaps	-	40%	90%
Average CO_2 reduction vs. 2025 baseline	-	15%	100% (net zero)
SMEs trained on decarbonisation/ESG	500+	2,000+	Continuous capacity-building
Green financing mobilised (€)	€50m	€200m	>€1bn cumulative
SMEs engaged in cross-border innovation pilots	20	100	500
SMEs adopting circular business models	10%	25%	80%
Policy references (NECPs, regional strategies)	Strategy referenced in ≥2 NECPs	≥4 NECPs	Full integration into EU climate framework

These KPIs will be tracked through the Carbon Calculator, readiness mapping, and project monitoring systems, ensuring comparability across partner countries.

3.6. Theory of Change

The CREDIT4CE Theory of Change illustrates how inputs (training, tools, policy alignment, financing, communication) lead to outputs (audits, roadmaps, networks), outcomes (reduced emissions, increased competitiveness), and ultimately the impact of climate neutrality by 2050.

4. Transnational Roadmap for SME Decarbonisation

The CREDIT4CE Joint Strategy defines a **phased roadmap** to guide manufacturing SMEs across Central Europe through the transition towards climate neutrality. The roadmap reflects different levels of readiness across partner countries but provides a **harmonised, goal-oriented process** applicable throughout the region.

4.1. Phase 1 (2025-2027): Establishing Baselines & Building Awareness

The first phase focuses on enabling SMEs to understand their emissions and take initial steps in decarbonisation. Most SMEs currently monitor only energy use or pay emission charges without knowing their real carbon footprint. Therefore, the priority is to establish baselines and awareness through audits, training, and entry-level tools.

Key actions:

- Roll-out of training programmes coordinated by UASB, covering energy audits, carbon footprinting, ESG requirements, and CSRD.
- Practical workshops and online modules to guide SMEs from “no data” to their first carbon footprint assessment.
- Promotion of role models and case studies to demonstrate feasibility and profitability (CONFEMI).
- Engagement of chambers of commerce and associations, mobilised by REGEA and GREENTECH.
- Deployment of the Carbon Calculator as the regional entry tool (PPNT/WUST).

KPIs (by 2027):

- 500 SMEs engaged in training and awareness.
- 250 SMEs completing energy audits or carbon footprint assessments.
- Establishment of a harmonised Central European baseline dataset.

Main contributors:

UASB (lead – training), PPNT/WUST (tools), CONFEMI (communication & role models), REGEA/GREENTECH (stakeholder mobilisation), SIEA (coordination).

4.2. Phase 2 (2027-2030): Scaling Decarbonisation Roadmaps

In the second phase, SMEs move from awareness to structured planning and implementation. This means transforming baseline results into actionable decarbonisation roadmaps, backed by financing and aligned with policy frameworks.

Key actions:

- Preparation of full decarbonisation roadmaps with targets, timelines, and investment needs (SIEA/UASB).
- Integration of circular economy and resource efficiency models (ZICER/PTP).
- Mobilisation of financing solutions, including grants, loans, and equity (GFO).
- Establishment of policy alignment with NECPs and EU goals (REGEA/GREENTECH).

- Dissemination of roadmaps and role models via the Decarbonisation Hub (CONFEMI).

KPIs (by 2030):

- 1,000 SMEs with formalised decarbonisation roadmaps.
- 500 SMEs accessing financing instruments.
- Demonstrated energy savings and measurable CO_2 reductions.

Main contributors:

SIEA (lead – roadmap coordination), UASB (training), ZICER/PTP (circular economy), GFO (financing), REGEA/GREENTECH (policy), CONFEMI (dissemination).

4.3. Phase 3 (2030–2050): Achieving Climate Neutrality

The third phase ensures that decarbonisation is mainstreamed across the SME sector, contributing directly to Europe's 2050 climate neutrality target. The focus shifts from pilots and early adopters to system-wide transformation.

Key actions:

- Large-scale adoption of renewable energy, electrification of transport, hydrogen, CCUS, and digital energy management.
- Widespread integration of circular economy models and industrial symbiosis (ZICER/PTP).
- Full alignment with strengthened EU climate frameworks and integration into global low-carbon supply chains (REGEA/GREENTECH).
- Institutionalisation of the Joint Decarbonisation Hub as the permanent CE platform for knowledge, monitoring, and finance (SIEA/CONFEMI).
- Organisation of an annual Central European SME Decarbonisation Forum to reinforce cooperation and showcase results.

KPIs (by 2050):

- 50% of SMEs achieving measurable emission reductions by 2040.
- Widespread adoption of circular economy practices by 2045.
- Full climate neutrality of the SME manufacturing sector by 2050.

Main contributors:

SIEA (lead - Hub and coordination), ZICER/PTP (innovation & scaling), REGEA/GREENTECH (policy alignment), GFO (financing), UASB (education and lifelong learning), CONFEMI (stakeholder engagement).

4.4. Joint Added Value of the Roadmap

This phased roadmap guarantees that SMEs across Austria, Croatia, Italy, Poland, Slovakia, and Slovenia advance along a coherent, comparable, and scalable pathway. By following the same steps—measure (Phase 1), plan (Phase 2), and achieve (Phase 3)—the strategy transforms fragmented national efforts into a joint transnational process.

The joint added value is clear:

- SMEs benefit from harmonised tools and indicators.
- Policymakers gain reliable regional data and alignment with EU goals.
- Investors access a critical mass of SMEs ready for green financing.
- The region as a whole moves towards competitiveness and resilience in global low-carbon markets.

5. Strategic Pillars

The CREDIT4CE roadmap is supported by six strategic pillars that address the key enablers of SME decarbonisation. These pillars cut across all phases of the roadmap (2025–2050), ensuring **coherence, scalability, and long-term sustainability of the strategy**.

5.1. Pillar 1 - Tools & Monitoring

Objective: Equip SMEs with harmonised tools to measure, plan, and track their decarbonisation journey.

The foundation of any effective decarbonisation strategy is **reliable data**. Yet, across Central Europe, most SMEs lack the tools and systems to establish a carbon baseline or monitor progress over time. Fewer than 20% of SMEs currently use any form of emissions tracking, and even those who have completed audits often fail to translate results into structured plans. Without harmonised monitoring systems, SMEs cannot benchmark their performance, policymakers cannot track collective progress, and investors cannot assess the readiness of SMEs for financing.

CREDIT4CE responds to this gap by creating a **transnational monitoring framework** that allows SMEs across Central Europe to measure their emissions in a comparable, practical, and resource-efficient way. At the core of this framework is the **Carbon Calculator**, a simple but robust digital tool that provides SMEs with a first entry point into emissions management. By using the Calculator, SMEs can move from “no data” to a basic carbon footprint assessment covering energy use, transport, processes, and supply chains.

The Calculator is integrated with other monitoring instruments such as **energy audits, carbon footprinting methodologies, and harmonised indicators**. This ensures that SMEs in Austria, Croatia, Italy, Poland, Slovakia, and Slovenia use consistent approaches, allowing cross-border comparability and a collective regional dataset. The results not only support SMEs in identifying hotspots and prioritising actions but also provide valuable inputs to policymakers and financial institutions.

Beyond individual tools, CREDIT4CE establishes a **Central European emissions monitoring system for SMEs**, enabling joint data collection and reporting. Annual joint reports will summarise progress, highlight sectoral and regional trends, and provide evidence to guide policy updates and financing schemes. This creates a feedback loop: SMEs generate data through the Calculator and audits → data is aggregated at regional level → policymakers and financiers use it to design support mechanisms → SMEs benefit from improved access to funding and incentives.

Key actions:

- Roll-out of the **Carbon Calculator** across all partner countries as the main entry tool.
- Integration of results from **energy audits and carbon footprinting** into the monitoring framework.
- Harmonisation of **data collection and reporting methodologies** to ensure comparability across borders.
- Development of **regional dashboards and annual progress reports** to provide transparency and accountability.

Strategic outputs:

- A CE-wide emissions monitoring system tailored for SMEs.
- Annual **joint reports** on SME decarbonisation, supporting alignment with EU and national policies.
- A regional emissions baseline dataset that enables benchmarking, financing mobilisation, and evidence-based policymaking.

KPIs:

- Number of SMEs using the Carbon Calculator.
- Number of SMEs completing audits and footprint assessments.
- Number of harmonised datasets shared across countries.
- Uptake of joint reports by policymakers and investors.

Through this pillar, CREDIT4CE ensures that **data and evidence underpin the entire strategy**. SMEs gain practical tools to understand and manage their emissions, while policymakers and financiers gain reliable information to design effective support. Tools and monitoring therefore act as the **bedrock of the transnational roadmap**, enabling SMEs to transition from awareness to action and ensuring that regional decarbonisation efforts are measurable, comparable, and scalable.

5.2. Pillar 2 - Policy Alignment

The successful decarbonisation of SMEs in Central Europe requires integration into the broader European and national policy frameworks that guide climate action, energy transition, and industrial competitiveness. CREDIT4CE therefore positions SME decarbonisation not as an isolated effort, but as a joint contribution to the **European Green Deal**, the **Fit for 55 package**, **REPowerEU**, and national **Energy and Climate Plans (NECPs)**.

While these frameworks set ambitious emission reduction targets, SMEs are often **not explicitly recognised in national plans** despite representing 99% of businesses and generating more than 60% of industrial emissions. This gap creates a risk of SMEs being left behind in the transition. CREDIT4CE addresses this by translating high-level targets into **SME-relevant actions**:

- **Carbon Calculator** – a practical entry point for SMEs to measure and monitor emissions.
- **Decarbonisation Hub** – a regional platform connecting SMEs with advisory services, funding, and best practices.
- **Pilot programmes and roadmaps** – enabling SMEs to align with EU and national requirements through structured, goal-oriented processes.

At the **national level**, CREDIT4CE ensures that NECP ambitions are translated into measurable SME actions:

- In **Austria**, high-level NECP ambitions are adapted for SMEs through mentoring networks and SME-friendly monitoring tools.
- In **Croatia**, where SME awareness is low, CREDIT4CE introduces first-time roadmaps and GHG monitoring.
- In **Italy**, circular economy strengths are linked to SME carbon management, ensuring NECP integration.
- In **Poland**, with its reliance on coal, CREDIT4CE promotes a just transition for SMEs and links them to EU/national funds.
- In **Slovakia**, audits are converted into actionable roadmaps, bridging the gap between diagnosis and implementation.

- In **Slovenia**, strong policy frameworks are operationalised for SMEs through light-touch planning tools and cross-border exchanges.

At the **macro-regional level**, CREDIT4CE embeds SME decarbonisation into strategies that connect Central Europe across borders:

- **Danube Region (EUSDR):** scaling SME competitiveness through renewable energy and low-carbon solutions.
- **Adriatic-Ionian Region (EUSAIR):** joint decarbonisation and low-emission transport.
- **Alpine Region (EUSALP):** innovation and SME visibility during Slovenia's presidency.
- **Baltic Sea Region (EUSBSR):** knowledge transfer and circular economy pilots.

Through this alignment, CREDIT4CE strengthens **policy coherence, knowledge exchange, and cross-border value chains**, preventing fragmentation and ensuring SMEs benefit equally from EU ambitions.

Strategic barriers and joint recommendations: CREDIT4CE partners have identified systemic barriers—low SME visibility in NECPs, limited data, financing complexity, low circular economy uptake, weak advisory capacity, and regional disparities. To overcome these, the joint strategy proposes:

1. Strengthening SME focus in NECP updates with explicit pathways and tailored incentives.
2. Mainstreaming carbon monitoring via digital tools like the Carbon Calculator.
3. Simplifying funding procedures and earmarking resources for SMEs.
4. Incentivising circular economy adoption through tax measures, procurement standards, and pilots.
5. Building long-term SME capacity via training and peer-learning.
6. Embedding CREDIT4CE's tools (Hub, Calculator, Catalogue of Providers) into macro-regional cooperation.

Baseline indicators and targets:

- By **2025**: fewer than 20% of SMEs use carbon monitoring tools or roadmaps; €2-3 billion annual climate investment.
- By **2030**: 70% of SMEs using monitoring tools; 50% with decarbonisation roadmaps; €5-6 billion annual investment; 25 MtCO_2 annual reductions.

Strategic outputs:

- Policy briefs and recommendations tailored for SME decarbonisation.
- Inclusion of SME pathways in NECPs and macro-regional strategies.
- Alignment of SME roadmaps with national and EU climate targets.

Through this pillar, SMEs move from being **underrepresented actors** to becoming **active drivers of climate neutrality**, ensuring that high-level European ambitions translate into **measurable transformation across thousands of enterprises in Central Europe**.

5.3. Pillar 3 – Innovation & Circular Economy

Objective: Foster innovation, R&D, and circular economy models to accelerate SME decarbonisation.

Innovation and circular business models are **essential enablers** of SME decarbonisation. By reducing waste, reusing resources, and adopting new business models, SMEs can lower emissions while improving competitiveness and resilience. Yet, across Central Europe, the uptake of such practices remains limited due to knowledge gaps, weak links with research institutions, and insufficient financial incentives.

CREDIT4CE addresses this by building a **transnational innovation ecosystem** that connects SMEs with universities, clusters, and technology providers, while promoting circular practices as mainstream strategies for growth.

The project supports SMEs in adopting solutions such as **reuse, recycling, renewable integration, industrial symbiosis, and product-as-a-service models**. These approaches not only reduce greenhouse gas emissions but also open new market opportunities, aligning with the **EU Circular Economy Action Plan** and the **European Green Deal**. By integrating circular practices into decarbonisation roadmaps, SMEs can move beyond incremental efficiency improvements towards systemic change.

Key actions:

- Establish **transnational innovation networks** linking SMEs with research institutes, universities, and clusters.
- Promote **joint R&D projects and pilot initiatives** that test new technologies and circular practices across partner countries.
- Provide **financial incentives and tailored funding instruments** (grants, loans, tax relief) to de-risk SME innovation.
- Develop **harmonised indicators** to track circular economy adoption and measure impact across the CE region.

Examples of impact:

- In **Slovenia**, SMEs in food processing introduced biodegradable packaging and take-back schemes, cutting plastic use by 40% and CO_2 emissions by 15%.
- In **Croatia**, food processors installed on-site biogas systems to convert organic waste into energy, reducing landfill waste by 30% and energy costs by 20%.
  These examples demonstrate that circular practices are not abstract concepts but **viable business strategies** with measurable environmental and economic benefits.

Showcase Case Study – Beti d.o.o. (Slovenia):

Beti d.o.o., a European leader in recycled dyed yarns, illustrates the potential of circular innovation. By using recycled inputs, upcycling waste into new products, and investing in plasma/digital processing technologies, the company reduced emissions, cut waste, and created local economic value. Their practices align with Slovenia's Circular Economy Strategy and EU climate goals, serving as a model for SMEs across Central Europe.

Strategic outputs:

- At least **200 SMEs adopting circular economy roadmaps by 2030**.
- A portfolio of **transnational innovation and pilot projects** linking multiple CE countries.
- A **case study library** of SME innovation champions, shared through the Decarbonisation Hub.

KPIs:

- Number of SMEs audited for circular opportunities.
- Number of SMEs adopting circular economy roadmaps.
- Tonnes of CO_2 reduced through circular practices.
- Number of SMEs engaged in cross-border pilots or joint R&D initiatives.

By embedding innovation and circularity into the CREDIT4CE strategy, SMEs will not only reduce emissions but also capture new value chains and markets. This ensures that decarbonisation becomes a driver of competitiveness, resilience, and long-term growth in Central Europe.

5.4. Financing & Green Investment

Objective: Mobilise financial resources to unlock SME decarbonisation at scale.

Financing is the decisive factor that determines whether SME decarbonisation strategies move from paper to practice. Across Central Europe, many SMEs are aware of their emissions and even have decarbonisation roadmaps, yet **implementation stalls due to lack of accessible finance**. SMEs face systemic barriers: complex application procedures for EU and national funds, underdeveloped private green finance markets, and limited advisory support. Unlike large corporates, SMEs often lack dedicated financial departments or collateral, leaving them excluded from many investment schemes.

CREDIT4CE responds to this challenge by establishing a **transnational financing framework** that mobilises both public and private resources for SME decarbonisation. The strategy focuses on three complementary levels:

1. **EU and national funding** – ensuring SMEs can effectively access Horizon Europe, LIFE, Just Transition Fund, and national climate programmes.
2. **Private finance** – engaging banks, equity providers, and impact investors to develop SME-focused green finance instruments.
3. **Innovative financing models** – promoting schemes such as leasing, Energy Service Companies (ESCOs), and pay-as-you-save solutions that match SME cash flows and investment capacities.

By combining these levels, CREDIT4CE seeks to **de-risk SME green investments** and create blended financing platforms that leverage public guarantees with private capital.

Key actions:

- **Mapping and connecting SMEs** to EU and national funding schemes through the Decarbonisation Hub.
- **Engaging financial institutions and investors** to expand access to loans, guarantees, and equity tailored to SMEs.
- Developing **SME-specific financing models** such as ESCO contracts, leasing solutions, and revolving credit schemes that allow gradual repayment through energy savings.
- Mobilising **public-private investment platforms** that pool resources, de-risk SME projects, and achieve scale.

Examples of financing pathways:

- In **Poland and Slovakia**, SMEs could benefit from Just Transition Funds if supported by simplified access procedures and advisory services.
- In **Italy and Austria**, banks are already piloting green credit lines, which can be expanded across the CE region through regional coordination.
- In **Croatia and Slovenia**, early-stage equity and venture capital ecosystems provide opportunities to connect innovative SMEs with private investors via matchmaking events coordinated by CREDIT4CE.

Strategic outputs:

- A **Central Europe-wide financing roadmap** for SME decarbonisation, aligning available funds with SME needs.
- Establishment of **dedicated SME investment platforms**, combining public guarantees with private sector resources.
- A **portfolio of tested financing models** (ESCOs, leasing, blended finance) scalable across CE countries.

KPIs:

- €5–6 billion in annual SME climate investments mobilised by 2030.
- Number of SMEs accessing financial support instruments.
- Volume of private green investment leveraged.
- Share of SMEs reporting successful implementation of roadmap measures due to improved finance.

This pillar ensures that **financial barriers are removed** and that SMEs across Central Europe gain the resources to implement their transition. By embedding financing solutions into the CREDIT4CE strategy, SMEs are empowered not only to comply with climate targets but also to invest in competitiveness, innovation, and resilience. In this way, financing becomes the **engine of the green transformation**, turning decarbonisation from ambition into measurable results.

5.5. Pillar 5 – Education & Capacity Building

Objective: Build the skills, awareness, and expertise needed for SMEs to decarbonise effectively.

Decarbonisation is not only a technological transition but also a **skills and knowledge transition**. Many SMEs in Central Europe lack the awareness, competencies, and in-house expertise needed to design and implement decarbonisation strategies. Even when tools and financing are available, barriers such as limited understanding of audits, lack of familiarity with ESG/CSRD obligations, and weak managerial capacities often prevent SMEs from acting. Without sustained investment in capacity building, SMEs risk falling behind in the transition, reducing their competitiveness in European and global markets.

CREDIT4CE therefore establishes a **permanent education and training framework** that equips SMEs, policymakers, and support institutions with the skills required to accelerate the green transition. The approach is transnational in scope—ensuring coherence across Central Europe—but allows for **national adaptation** to reflect specific policy frameworks, technologies, and business cultures.

At the heart of this framework is a **modular training pathway with three levels of progression**:

1. **Fundamentals** – basic awareness and practical entry skills, including how to conduct an energy audit, measure a carbon footprint, and understand ESG and CSRD obligations.
2. **Intermediate** – translating knowledge into action, including preparation of decarbonisation roadmaps, access to finance, and adoption of circular economy practices.
3. **Advanced** – specialist training for consultants, advisors, and innovation actors, building a skilled ecosystem capable of supporting SMEs at scale.

Delivery follows a **blended learning approach**: digital tools such as e-learning modules and webinars ensure accessibility across regions, while workshops, demonstration visits, and SME cluster activities provide hands-on experience and peer learning.

Education is embedded not only in project activities but also in **institutional structures**. Universities such as UASB are integrating decarbonisation and circular economy content into curricula, vocational schools are introducing hands-on training for SME staff, and chambers of commerce are embedding

CREDIT4CE training into their regular service offers. This ensures that knowledge transfer is institutionalised and continues beyond the project lifetime.

The strategy also emphasises the **dissemination of best practices and case studies**. Successful examples of SME training and skills development are documented and shared via the Decarbonisation Hub, creating a permanent library of methods and inspiring role models for others to follow.

Key actions:

- Establish a **modular training pathway** (fundamentals, intermediate, advanced).
- Deliver training through a **blended approach** combining digital tools with workshops, demonstration visits, and SME cluster activities.
- **Integrate decarbonisation into education systems**: university curricula, vocational training, and chambers of commerce programmes.
- **Disseminate best practices and case studies** through the Decarbonisation Hub to ensure continuous peer learning.

Strategic outputs:

- A **permanent Central European training framework** integrated into higher education, vocational schools, and SME support institutions.
- A **library of training models and case studies** accessible to SMEs across the CE region.
- A network of **trained advisors and consultants** supporting SMEs with roadmap preparation, financing, and circular economy adoption.

KPIs:

- **5,000 SME staff trained by 2030.**
- Number of **universities and vocational schools** embedding decarbonisation modules.
- Number of **chambers and associations** integrating CREDIT4CE training programmes.
- Number of SMEs reporting **direct application of skills** gained through training (e.g. roadmap development, funding access, emissions reduction).

Education and capacity building are cross-cutting enablers that strengthen all other CREDIT4CE pillars. Training ensures that SMEs can use monitoring tools (Pillar 1), align with policies (Pillar 2), adopt innovation and circular practices (Pillar 3), access financing (Pillar 4), and communicate progress effectively (Pillar 6). By embedding education into universities, associations, and innovation networks, CREDIT4CE creates a lasting skills infrastructure that supports the Central European manufacturing sector on its pathway to climate neutrality by 2050.

5.6. Pillar 6 - Communication & Stakeholder Uptake

Objective: Ensure that CREDIT4CE achieves broad adoption and long-term impact by embedding its tools, methods, and outputs into the ecosystems of SMEs, policymakers, and investors across Central Europe.

Rationale:
Decarbonisation strategies can only succeed if they are **understood, trusted, and used** by their target groups. For SMEs, awareness and motivation are essential to turn tools and training into action. Policymakers require credible evidence of impact to shape enabling frameworks, while investors need proof of market readiness before committing capital. Too often, project outputs remain isolated pilots.

CREDIT4CE tackles this by positioning communication and uptake as a **strategic driver**, ensuring outputs are mainstreamed into permanent institutions and networks beyond project funding.

CREDIT4CE response:

The communication and uptake strategy is guided by three principles:

1. **Tailored engagement** – Different stakeholder groups require targeted formats and messages: SMEs need practical entry points and incentives; policymakers expect evidence of alignment with EU and national climate targets; investors focus on financial viability and scalability.
2. **Role models and case studies** – Demonstrating that decarbonisation is both feasible and profitable inspires replication across the SME community.
3. **Long-term integration** – By engaging multipliers such as chambers of commerce, business associations, and innovation agencies, CREDIT4CE ensures its outputs live on as part of established support systems.

Key actions:

- Develop a **Central Europe-wide communication and dissemination plan**, coordinated by CONFEMI, with transparent monitoring through a live Communication Activity Log.
- Position the **Decarbonisation Hub** as the digital gateway for SMEs and stakeholders, linking tools (Carbon Calculator, Catalogue of Providers), training resources, and case studies.
- Combine **digital channels** (website, LinkedIn campaigns, newsletters) with **physical events** (conferences, demonstration visits, policy roundtables) to reach audiences at multiple levels.
- Build **stakeholder networks** through multipliers (chambers, associations, clusters, universities) that embed CREDIT4CE outputs into their ongoing services.
- Align dissemination with **EU and macro-regional strategies** (Green Deal, Fit for 55, REPowerEU, EUSDR, EUSAIR, EUSALP, EUSBSR), ensuring outputs directly contribute to Europe's climate priorities.

Strategic outputs:

- A **transnational communication and uptake framework**, ensuring coherent engagement across partner countries.
- A **library of SME role models and case studies** demonstrating tangible benefits of decarbonisation.
- A **network of uptake multipliers** embedding CREDIT4CE outputs into long-term advisory and training systems.
- **Handover protocols** (guides, templates, technical documentation) to ensure smooth transfer of outputs into permanent practice.

KPIs:

- At least **150 SMEs engaged** through readiness mapping, with 100 SMEs trained and 20 startups supported, of which at least 5 secure investment or pilot clients.
- Number of **multipliers integrating CREDIT4CE outputs** into their regular services.
- Uptake of the **Carbon Calculator and Catalogue of Providers** by SMEs and advisory institutions.
- Indicators of **digital and media engagement** (Hub traffic, case study views, social media reach, policy mentions).

Strategic conclusion:

CREDIT4CE's communication and stakeholder uptake pillar goes beyond awareness-raising: it establishes a **scalable adoption pathway** for industrial decarbonisation in Central Europe. By tailoring engagement, showcasing role models, and embedding outputs into existing institutions, the strategy guarantees continuity beyond the project's 30 months. This approach ensures that SMEs, policymakers, and investors remain active participants in the green transition, while positioning CREDIT4CE as a recognised reference point for climate-neutral manufacturing across the region.

6. Regional Adaptation & Joint Added Value

While the CREDIT4CE Joint Strategy provides a harmonised, goal-driven framework for SME decarbonisation, its successful implementation requires sensitivity to the specific contexts of the six partner countries. Each partner contributes distinct insights into the current state of SME readiness, the barriers faced, and the opportunities available. By addressing national particularities while maintaining a shared transnational approach, CREDIT4CE ensures that the strategy is both **locally relevant** and **regionally coherent**, creating joint added value that goes beyond isolated national efforts.

6.1. Austria

Austria's manufacturing SMEs are highly diverse, with strong positions in mechanical engineering, automotive supply, wood processing, and food industries. Compared to peers in Central Europe, Austrian SMEs generally show higher awareness of energy efficiency and sustainability. However, many companies still lack **systematic carbon monitoring, ESG/CSRD compliance, and integrated decarbonisation roadmaps**. Current efforts often focus on isolated measures—such as renewable energy sourcing or waste reduction—without addressing full value chain emissions.

CREDIT4CE adds value by embedding Austria's efforts into a **harmonised Central European framework**. The use of the Carbon Calculator enables SMEs to benchmark themselves against regional peers, a growing requirement in international supply chains and EU reporting standards. Austrian universities, innovation centres, and agencies benefit from CREDIT4CE's transnational training framework, coordinated by UASB, which allows vocational schools and advisory institutions to align curricula and services with Central European best practices.

On the policy level, Austria's National Energy and Climate Plan (NECP) sets ambitious reduction targets, but SMEs remain underrepresented in implementation. CREDIT4CE helps to close this gap by providing **practical tools, advisory models, and financing solutions** that translate national objectives into SME-level action. In this way, Austrian SMEs can not only comply with regulatory requirements but also seize new market opportunities in the green transition.

The joint added value for Austria stems from the ability to **leverage cross-border expertise and resources**:

- Collaboration with Croatian (ZICER) and Slovenian (PTP) partners strengthens Austria's innovation ecosystem, particularly in circular economy and industrial symbiosis.
- Financing models developed by GFO complement Austria's subsidy landscape, offering SMEs new avenues to mobilise EU and private investment.
- The Decarbonisation Hub ensures Austrian SMEs are integrated into a **permanent Central European platform**, connecting them with policymakers, investors, and role models beyond national borders.

By combining Austria's innovation strengths with CREDIT4CE's transnational approach, Austrian SMEs can move from incremental efficiency improvements to **comprehensive decarbonisation pathways**. This integration enables Austria to deliver more effectively on its NECP targets while positioning its SMEs as leaders in Europe's climate-neutral manufacturing sector.

6.2. Croatia

Croatia's SMEs are at an early stage in their decarbonisation journey. While awareness of climate change and sustainability is slowly increasing, most SMEs still lack **formal carbon accounting systems, monitoring tools, and structured roadmaps**. Climate action is often fragmented, reactive, or focused only on meeting regulatory requirements. Support mechanisms remain scattered, and limited access to technical expertise, advisory services, and low-cost financing further constrains SME capacity. In many sectors—such as manufacturing and tourism-related supply chains—sustainability is still perceived more as an administrative burden than a strategic opportunity.

Despite these barriers, Croatia offers **important opportunities**. A growing renewable energy sector—particularly in solar, wind, and biomass—can provide SMEs with cost-effective decarbonisation options. EU funding instruments (cohesion policy, Horizon Europe, LIFE) are available but underused due to complexity and limited advisory capacity. Rising market demand for sustainable products and services, especially in **tourism, agri-food, and related industries**, gives SMEs an additional competitive incentive to adopt low-carbon practices. Early role models already exist, such as SMEs integrating energy efficiency measures into production, installing small-scale renewable energy solutions, and engaging in pilot projects with regional innovation hubs.

CREDIT4CE delivers **joint added value** by enabling Croatian SMEs to move from isolated measures to structured, strategic action. The project provides:

- **Harmonised tools** such as the Carbon Calculator, giving SMEs a first entry point into emissions monitoring.
- **Structured roadmaps and advisory support**, allowing SMEs to translate audits into actionable decarbonisation plans.
- **Access to cross-border expertise**, particularly from Austrian, Slovenian, and Polish partners with advanced monitoring and circular economy practices.
- **Financing pathways**, coordinated by GFO, that help Croatian SMEs overcome the investment barrier and better access EU and national funds.
- **Integration into the Decarbonisation Hub**, which connects SMEs to regional knowledge, investors, and policy frameworks.

By embedding Croatian SMEs into this transnational framework, CREDIT4CE ensures they can overcome structural barriers, seize renewable and market opportunities, and align with both national and EU climate objectives. This joint approach transforms Croatian SMEs from passive compliance actors into **active contributors to Central Europe's pathway toward climate neutrality**

6.3. Italy

Italian SMEs represent one of the largest industrial SME ecosystems in Europe, with strong contributions in sectors such as textiles, machinery, agri-food, and design-based industries. Italy is recognised as a leader in circular economy practices, yet preliminary CREDIT4CE mapping shows that many SMEs still face challenges in systematic carbon monitoring, adoption of decarbonisation roadmaps, and access to financing instruments. While larger enterprises are already subject to CSRD and supply chain reporting obligations, SMEs often lack the capacity and advisory support needed to align with these requirements.

Key barriers include uneven access to funding, variable awareness of decarbonisation benefits, and fragmented uptake of monitoring tools. Many SMEs integrate individual measures—such as recycling or renewable energy sourcing—but do not yet translate these into structured long-term strategies. Without harmonised guidance, the risk is that Italian SMEs remain innovators in isolated niches rather than achieving systemic transformation across sectors.

CREDIT4CE brings added value by embedding Italian SMEs into a Central European decarbonisation framework. The Carbon Calculator provides a common baseline, allowing Italian SMEs to benchmark their circular practices against regional peers and demonstrate quantifiable emission reductions. Advisory and training support ensures that SMEs can move from resource efficiency measures to comprehensive roadmaps aligned with EU climate goals. Financing models coordinated by GFO and peer-learning formats promoted through CONFEMI help Italian SMEs overcome investment barriers and share solutions with partners across borders.

Regionally, Italy's expertise in circular economy creates opportunities to export good practices—such as industrial symbiosis and recycling innovations—into neighbouring Central European countries. At the same time, Italian SMEs benefit from learning about advanced monitoring systems from Austria, policy translation models from Slovakia and Poland, and renewable energy integration from Croatia and Slovenia. The Decarbonisation Hub ensures Italian SMEs are part of a permanent transnational platform, linking them to investors, policymakers, and role models across Europe.

By combining Italy's innovation strengths with CREDIT4CE's structured, regional approach, Italian SMEs can move from fragmented efforts to scalable, systematic decarbonisation pathways. This ensures Italy not only consolidates its leadership in the circular economy but also contributes decisively to Central Europe's collective progress toward climate neutrality.

6.4. Poland

Polish SMEs form the backbone of the country's manufacturing economy, particularly in **metals, chemicals, construction materials, and machinery**. However, their decarbonisation journey is constrained by Poland's structural reliance on **coal-based energy** and limited penetration of renewables. This dependency increases both emissions intensity and vulnerability to fluctuating fossil fuel prices. Preliminary CREDIT4CE mapping confirms that Polish SMEs face **low uptake of carbon monitoring tools, limited access to decarbonisation finance, and weak integration into circular economy models**.

Several barriers persist. Many SMEs perceive climate action as a cost burden rather than a competitive advantage, especially in regions where coal dominates local energy mixes. Access to EU and national financing is uneven: while large enterprises benefit from established advisory support, SMEs struggle with **complex application procedures and a lack of tailored instruments**. Innovation ecosystems remain fragmented, with limited cooperation between SMEs, universities, and research centres. As a result, decarbonisation is often reduced to **isolated efficiency measures**, without structured roadmaps or long-term targets.

At the same time, Poland holds **significant opportunities** for SME decarbonisation. The government has committed to expanding renewable energy, particularly in offshore wind, photovoltaics, and bioenergy, creating new possibilities for SMEs to green their operations and supply chains. EU Just Transition funding provides targeted support for coal-dependent regions, while Horizon Europe and cohesion policy programmes can be leveraged to accelerate SME investment in energy efficiency, renewables, and circular practices. Demand from multinational corporations for low-carbon suppliers is also pushing SMEs to align with ESG and CSRD requirements.

CREDIT4CE provides **joint added value** by creating a structured, transnational pathway for Polish SMEs to overcome systemic barriers.

- The **Carbon Calculator** offers a simple entry point into emissions monitoring, enabling SMEs to establish baselines and align with EU reporting standards.
- Training and advisory support coordinated by UASB and SIEA build the capacity of SMEs to prepare **comprehensive roadmaps**, moving beyond ad hoc measures.
- Financing models developed by GFO and tailored to SME realities help Polish companies access EU funds and attract private green investment.
- Peer learning through the **Decarbonisation Hub** connects Polish SMEs with role models from Austria, Italy, and Slovenia, while showcasing Polish innovations to the region.
- Policy alignment activities coordinated by GREENTECH and REGEA ensure that Polish SME pathways contribute directly to the National Energy and Climate Plan and the EU's Fit for 55 objectives.

By embedding Polish SMEs in this transnational framework, CREDIT4CE enables them to transform structural disadvantages—such as coal dependency—into opportunities for **green investment, innovation, and competitiveness**. This joint strategy ensures that Poland's SMEs are not left behind in Europe's climate transition but become active participants in achieving a **climate-neutral Central Europe by 2050**.

6.5. Slovakia

Slovakia's manufacturing SMEs are a vital part of the national economy, particularly in **automotive supply chains, plastics, machinery, and metallurgy**. While some larger companies have introduced energy efficiency measures, most SMEs still **do not systematically track their carbon footprint**. Monitoring is often limited to energy consumption and statutory emission-related fees, without integration into long-term decarbonisation strategies. As a result, SMEs lack both the data and the competencies needed to develop structured emission reduction roadmaps.

The main barriers for Slovak SMEs include the **absence of carbon monitoring practices, low awareness of ESG/CSRD obligations, and limited integration of decarbonisation into business models**. Many SMEs remain reactive, responding to regulatory or cost pressures rather than proactively planning for climate neutrality. Engagement with innovation ecosystems is fragmented, and the uptake of external support—such as audits or advisory services—remains low.

At the same time, Slovakia presents **important opportunities**. Large enterprises, especially in the automotive sector, are already subject to strict EU and corporate carbon reporting requirements, creating **supply chain pressure for SMEs** to align. Slovakia also benefits from a strong network of universities, research institutes, and national agencies (notably SIEA), which can provide technical expertise, advisory support, and access to funding. Moreover, Slovak SMEs can draw on tested solutions from other Central European countries, including harmonised carbon calculation tools, circular economy pilots, and innovative financing schemes.

CREDIT4CE delivers **joint added value** by embedding Slovak SMEs into a structured, transnational framework.

- The **Carbon Calculator**, developed by PPNT and WUST, provides SMEs with harmonised methodologies for measuring emissions, enabling benchmarking with peers across Austria, Croatia, Italy, Poland, and Slovenia. This comparability strengthens SMEs' ability to integrate into European supply chains.
- The **training and capacity-building framework**, led by UASB and supported by Slovak partners, guides SMEs from basic awareness to structured roadmap preparation. For Slovakia, where many SMEs are starting from a low baseline, this stepwise approach is particularly valuable.
- **Policy alignment is reinforced through SIEA's leadership role** in coordinating the Central European roadmap. This ensures that Slovak SMEs benefit from national support while being

positioned within broader EU frameworks, enhancing alignment with the NECP and EU Green Deal objectives.

- **Innovation and financing synergies** are unlocked by transferring case studies and pilots from Croatia and Slovenia, while applying GFO's financing models to mobilise investment for Slovak SMEs.

By participating in the **Joint Decarbonisation Hub**, Slovak SMEs will gain permanent access to tools, training, and financing pathways, securing their role in low-carbon supply chains. This transnational support helps Slovakia not only meet its NECP commitments but also position its SMEs as **active drivers of climate neutrality by 2050**.

6.6. Slovenia

Slovenian SMEs face a number of challenges in advancing towards **deep decarbonisation and circular economy adoption**. Access to finance for low-carbon investments remains limited, while technological readiness for circular production processes is uneven across sectors. Many SMEs lack in-house expertise on sustainable practices and struggle to navigate EU and national policy frameworks, which slows the adoption of decarbonisation measures. In addition, fragmented SME networks hinder knowledge sharing and collaboration, reducing the diffusion of innovative solutions across industries.

At the same time, Slovenia offers **significant opportunities** to accelerate SME engagement in circular economy and decarbonisation initiatives. National frameworks such as the **Slovenian Circular Economy Strategy** and the **Regional Circular Bioeconomy Strategy - Podravje 2023-2030** complement EU-level instruments including the Green Deal and the Circular Economy Action Plan. Slovenian SMEs also benefit from strong research institutions, innovation hubs, and digitalisation projects that can support energy efficiency, waste reduction, and resource optimisation. These opportunities allow SMEs not only to comply with policy requirements but also to enhance competitiveness and market positioning.

Good practices already exist in Slovenia and illustrate the transformative potential of SME-led innovation. **Beti d.o.o.**, a textile company producing sustainable yarns, has pioneered the use of recycled materials and advanced digital processes. By upcycling technological residues into new products, Beti has significantly reduced material waste and CO_2 emissions while creating new value chains. Such examples demonstrate that circular solutions can be both environmentally effective and economically viable.

CREDIT4CE delivers **joint added value** by embedding Slovenian SMEs into a **Central European framework for decarbonisation**.

- The **Carbon Calculator** enables SMEs to establish baselines and benchmark progress against peers across the region, strengthening their integration into international supply chains.
- Through the **Decarbonisation Hub**, Slovenian SMEs gain access to a shared library of case studies, training resources, and financing opportunities, amplifying the visibility of national innovations such as Beti d.o.o.
- Training and advisory services, coordinated by UASB and regional partners, help Slovenian SMEs transform policy requirements into practical roadmaps and investment strategies.
- Transnational cooperation allows Slovenian SMEs to share their expertise in **circular economy practices** while benefiting from financing models (developed by GFO), renewable energy pilots (from Croatia), and monitoring frameworks (from Austria and Poland).

By aligning Slovenia's strengths in circular economy with the structured tools and cross-border collaboration of CREDIT4CE, the strategy ensures that SMEs can move from individual initiatives to **systematic, scalable decarbonisation pathways**. This positions Slovenian SMEs as both beneficiaries and contributors to the Central European transition, reinforcing their competitiveness while advancing the joint goal of climate neutrality by 2050.

Common regional Challenges

The analysis of regional contexts across Austria, Croatia, Italy, Poland, Slovakia, and Slovenia demonstrates that, despite important national differences, SMEs in Central Europe face a set of common challenges that hinder their contribution to the climate transition.

First, the **absence of baseline data and carbon monitoring** represents a fundamental obstacle. In most countries, fewer than 20% of SMEs systematically measure their emissions, and existing audits or energy assessments are rarely translated into comprehensive decarbonisation roadmaps. This lack of reliable data makes it difficult for SMEs to align with EU and national climate targets or to demonstrate progress within international supply chains.

Second, SMEs show **limited awareness and capacity to act**. Many enterprises still perceive decarbonisation as a compliance burden rather than a strategic opportunity for cost savings, competitiveness, and market positioning. Skills and knowledge gaps – especially in areas such as ESG/CSRD reporting, financing instruments, and circular economy practices – prevent SMEs from taking proactive steps toward climate neutrality.

Third, **access to finance remains a systemic bottleneck**. While EU and national schemes exist, SMEs frequently encounter complex procedures, insufficiently tailored instruments, and fragmented advisory support. In many cases, large enterprises absorb the bulk of funding opportunities, while SMEs remain underrepresented in investment programmes.

Finally, **innovation ecosystems remain fragmented**, and the uptake of circular economy models is still limited. Although strong examples exist in countries like Slovenia and Italy, the diffusion of innovation is uneven, with many SMEs isolated from research institutions, clusters, and peer-learning networks. This fragmentation prevents SMEs from benefitting fully from collective knowledge and from scaling up successful practices across the region.

Together, these shared barriers highlight the need for a **coordinated, transnational response** that complements national initiatives while addressing structural weaknesses across Central Europe.

Joint Added Value

The CREDIT4CE strategy creates value not by replacing national actions, but by embedding them into a **coherent, transnational framework** that maximises impact and ensures that no SME or region is left behind in the transition to climate neutrality.

By introducing **harmonised tools and indicators** – such as the Carbon Calculator, common KPIs, and shared monitoring methodologies – SMEs across Central Europe are able to measure and benchmark their progress on comparable terms. This transparency strengthens integration into European supply chains and supports policy alignment at EU and national levels.

CREDIT4CE also fosters **systematic knowledge sharing and transfer of best practices**. Austrian experience with advanced monitoring, Italy's leadership in circular economy, Poland's technical expertise in industrial processes, and Slovenia's innovation in recycled materials are made accessible to all partner countries. Demonstration visits, peer-learning networks, and the Decarbonisation Hub institutionalise this exchange, reducing duplication and accelerating the uptake of proven solutions.

At the policy level, the joint strategy ensures **consistency with EU and macro-regional frameworks** such as the Green Deal, Fit for 55, REPowerEU, and the Danube and Alpine Strategies. By positioning SMEs as explicit beneficiaries within these frameworks, CREDIT4CE prevents fragmented approaches and strengthens the voice of SMEs in shaping future climate policies.

Finally, CREDIT4CE enhances **visibility and credibility for SMEs** in Central Europe. By embedding them into a coordinated CE-wide transition, SMEs gain greater exposure to EU institutions, investors, and international markets. This collective positioning enables SMEs not only to comply with climate obligations, but to actively compete in green value chains and attract sustainable finance.

In this way, the CREDIT4CE joint strategy transforms fragmented national efforts into a **cohesive regional pathway**, ensuring that Central European SMEs become active contributors to Europe's 2050 climate neutrality objective while enhancing their long-term competitiveness and resilience.

7. Monitoring & Evaluation Framework

A robust monitoring and evaluation (M&E) framework is central to the CREDIT4CE Joint Strategy, ensuring that the transition of SMEs towards climate neutrality is goal-driven, measurable, and adaptive. Monitoring does not only provide data but also supports learning, accountability, and policy alignment. By systematically collecting evidence, partners, SMEs, and policymakers will be able to assess effectiveness, identify barriers, and refine actions in line with emerging opportunities and challenges.

7.1. Core indicators

The framework is structured around a harmonised set of indicators that are linked to the three roadmap phases and to the cross-cutting strategic pillars. These indicators ensure comparability across partner countries while reflecting the transnational scope of the strategy.

- **Phase 1 (2025-2027): Establishing Baselines and Awareness**
  During the first phase, the focus is on data collection and capacity building. Indicators include:
  - Number of SMEs completing energy audits.
  - Number of SMEs initiating carbon footprint calculations.
  - Number of SMEs participating in awareness and training activities.
- **Phase 2 (2027-2030): Scaling Roadmaps**
  In this phase, the emphasis shifts from awareness to structured action. Indicators include:
  - Number of SMEs with formalised decarbonisation roadmaps.
  - Share of SMEs actively using the Carbon Calculator.
  - Reported energy savings (MWh).
  - Reported CO_2 reductions (tCO_2).
- **Phase 3 (2030-2050): Achieving Carbon Neutrality**
  The third phase focuses on long-term transformation and integration into low-carbon value chains. Indicators include:
  - % reduction in SME emissions compared to the 2025 baseline.
  - % of SMEs achieving climate-neutral operations.
  - Share of SMEs adopting circular economy business models.
- **Cross-cutting Pillars**
  Beyond the roadmap, indicators are also linked to strategic enablers:
  - Volume of funding mobilised for SME decarbonisation (EUR).
  - Number of policy recommendations taken up in NECPs or regional strategies.
  - Number of SMEs engaged in innovation pilots.
  - Number of stakeholders actively involved in implementation and uptake.

Together, these indicators provide a balanced framework that measures both outputs (e.g., audits, roadmaps) and outcomes (e.g., emission reductions, financing mobilised).

7.2. Monitoring Cycle

To guarantee consistency and comparability across Central Europe, CREDIT4CE applies a structured monitoring cycle:

- **Annual Monitoring:** SMEs input baseline data and progress updates via the Carbon Calculator. National partners aggregate this information into country reports, which are then compiled into a joint Central European progress report. This ensures timely and harmonised data collection across all partner regions.
- **Biannual Review Meetings:** Twice a year, CREDIT4CE partners meet to review collected data, assess barriers, and adjust implementation priorities. These meetings include external stakeholders such as policy representatives, chambers of commerce, and business associations, ensuring that monitoring results feed directly into policymaking and business support services.
- **Five-Year Strategic Reviews (2027, 2030, 2035, 2040, 2045, 2050):** At five-year intervals, the strategy undergoes a comprehensive evaluation. These reviews assess SME progress towards intermediate and long-term goals, verify alignment with updated EU and national policies, and adapt the roadmap milestones as needed.

This structured cycle provides a balance between short-term monitoring for operational decisions and long-term reviews for strategic steering.

7.3. Feedback Loops and Adaptive Improvements

The CREDIT4CE M&E framework is designed as a **living system** that integrates feedback from different levels to continuously improve implementation.

- **At SME level**, enterprises receive benchmarking reports showing how their performance compares to sectoral and regional averages. This motivates further action and helps SMEs demonstrate credibility in supply chains.
- **At partner level**, the aggregated data enables partners to identify bottlenecks, such as low financing uptake or slow adoption of circular practices. This analysis informs corrective measures and targeted support.
- **At policy level**, monitoring results are communicated to national and EU policymakers. Evidence from SME progress, barriers, and needs ensures that future policy frameworks—such as NECPs, REPowerEU, or cohesion funding—reflect the realities of SMEs and support effective decarbonisation.

This adaptive, multi-level approach ensures that the CREDIT4CE strategy remains dynamic, relevant, and resilient to changing conditions. By embedding feedback loops, the M&E framework transforms monitoring into a **strategic enabler of continuous improvement**, rather than a static reporting exercise.

8. Governance & Implementation

8.1. Governance Structure

The governance model builds on the diverse strengths of project partners, balancing central coordination with national ownership and thematic expertise.

- The Lead Partner (SIEA) is responsible for overall coordination, ensuring that the joint strategy remains coherent across all six countries. It acts as the central contact point for programme authorities, oversees compliance with EU and Programme requirements, and guarantees consistency between national and transnational actions.
- National Partners in Austria, Croatia, Italy, Poland, Slovakia, and Slovenia ensure implementation at country level. They collect SME data, adapt common tools to national contexts, and maintain regular dialogue with chambers, business associations, and policymakers. This national anchoring is essential to guarantee that SMEs see the strategy not as an abstract European framework but as a set of practical instruments relevant to their daily operations.
- Technical Partners (PPNT, WUST, ZICER, PTP, UASB) lead on thematic innovation, providing methodological support and transferring knowledge across borders. Their contributions range from monitoring tools and circular economy pilots to advanced training and education pathways.
- Policy and Stakeholder Partners (REGEA, GREENTECH, CONFEMI, GFO) connect the strategy with broader frameworks, ensuring its alignment with the European Green Deal, Fit for 55, and national NECPs. They also mobilise financing and guarantee stakeholder uptake by policymakers, chambers, and business associations.

This shared governance model distributes responsibilities while maintaining coherence, ensuring that no country or partner operates in isolation.

8.2. Implementation Cycle

Implementation follows a continuous cycle of monitoring, review, and adaptation. Every year, SMEs will submit baseline and progress data via the Carbon Calculator, which is then aggregated nationally and compiled into a Central European Monitoring Report hosted by the Decarbonisation Hub.

Partners will meet twice annually to review results, assess bottlenecks, and adapt implementation priorities. These meetings include policymakers and business associations, ensuring that findings immediately feed into decision-making.

Every five years (2027, 2030, 2035, 2040, 2045, 2050), comprehensive strategic reviews will take place. These reviews evaluate whether roadmap milestones have been achieved, assess progress towards climate neutrality, and adjust targets in response to new technologies, financing opportunities, or EU policy shifts. This cycle ensures that the strategy remains stable in its vision but adaptive in its execution.

8.3. Joint Decarbonisation Hub

The Joint Decarbonisation Hub is the institutional backbone of CREDIT4CE and will remain operational beyond the project lifetime. Its role is threefold:

- As a knowledge platform, it hosts tools, training resources, and case studies, ensuring that SMEs have permanent access to practical guidance.
- As a monitoring centre, it manages Central European data, compiles annual progress reports, and tracks regional KPIs.
- As a networking space, it links SMEs to policymakers, financiers, and innovators, creating opportunities for matchmaking and collaboration.

The Hub also convenes the annual Central European SME Decarbonisation Forum, a flagship event to showcase progress, strengthen cooperation, and reinforce commitment.

Designed as a permanent structure embedded in existing institutions such as chambers of commerce, innovation agencies, or universities, the Hub will operate under a mixed financing model, combining EU and national funds with stakeholder contributions. This ensures continuity, independence, and long-term impact.

8.4. Stakeholder Engagement

The success of CREDIT4CE depends on active engagement of all stakeholders. SMEs remain at the centre, supported to adopt decarbonisation roadmaps and circular economy models. Chambers and clusters act as multipliers, disseminating good practices across business communities. Financial institutions provide access to investment, while universities and research centres supply technical expertise, innovation, and training. Policymakers ensure regulatory alignment by embedding SME decarbonisation into NECPs and sectoral strategies.

Engagement will take place through a combination of digital and physical channels: annual forums, policy roundtables, finance matchmaking events, and continuous online interaction via the Hub. This ensures that SMEs remain connected to the wider ecosystem of support and opportunity.

8.5. Long-Term Sustainability

The governance and implementation framework is designed for **durability beyond the project lifetime**. Sustainability will be secured by:

- Embedding SME decarbonisation pathways into national and regional Energy and Climate Plans.
- Maintaining the Carbon Calculator as a permanent, free-to-use tool.
- Institutionalising the Joint Decarbonisation Hub as a lasting platform for knowledge, monitoring, and cooperation.

Financial sustainability will be underpinned by a combination of EU programmes (Horizon Europe, LIFE, InvestEU, cohesion funds), national instruments, and mobilised private capital. The permanent network of SMEs, policymakers, financiers, and innovators created through the Hub will ensure that Central European SMEs remain on track to achieve climate neutrality by 2050.

9. Conclusion

The CREDIT4CE Joint Strategy for the Decarbonisation of Manufacturing SMEs provides a **clear, phased, and goal-oriented pathway** for Central European SMEs to achieve climate neutrality by 2050. By combining a shared vision with measurable milestones, it ensures that SMEs move beyond incremental measures towards systematic and strategic decarbonisation.

The roadmap defines a structured transition:

- **2025-2027**: establishing baselines and building awareness;
- **2027-2030**: scaling decarbonisation roadmaps and mobilising investments;
- **2030-2050**: achieving carbon neutrality and embedding SMEs into low-carbon value chains.

To enable this transformation, the strategy is built on **six interlinked strategic pillars**:

1. **Tools & Monitoring** – equipping SMEs with harmonised methods for carbon calculation and progress tracking.

2. **Policy Alignment** – embedding SME action into EU and national frameworks such as the Green Deal, Fit for 55, and NECPs.
3. **Innovation & Circular Economy** – fostering R&D, piloting circular models, and enabling SMEs to capture new value chains.
4. **Financing & Green Investment** – unlocking tailored financial instruments and mobilising public-private resources.
5. **Education & Capacity Building** – creating a permanent training framework for SMEs, advisors, and future professionals.
6. **Communication & Stakeholder Uptake** – ensuring visibility, role models, and sustained engagement of multipliers.

The strategy is reinforced by a **robust Monitoring & Evaluation framework** that measures progress across all phases and pillars, ensuring that results are transparent, comparable, and adaptable to emerging challenges. Its **governance and implementation framework**, anchored in the Joint Decarbonisation Hub, guarantees long-term continuity, institutionalisation, and stakeholder engagement well beyond the lifetime of the project.

This document represents more than a project deliverable: it is a **jointly developed transnational strategy (RCO83)** that delivers clear added value by:

- Harmonising approaches across Austria, Croatia, Italy, Poland, Slovakia, and Slovenia.
- Providing SMEs with comparable tools, indicators, and reporting frameworks.
- Linking SME-level action to EU-wide objectives (European Green Deal, Fit for 55, REPowerEU, macro-regional strategies).
- Mobilising policy, finance, innovation, and education ecosystems to support SMEs long term.

By embedding SME decarbonisation within both European frameworks and regional ecosystems, CREDIT4CE ensures that no enterprise or region is left behind in the transition. The partnership reaffirms its **collective commitment to economic competitiveness, climate responsibility, and social cohesion**, positioning Central European SMEs as **active drivers of Europe's pathway to climate neutrality**.

Through this joint effort, SMEs gain not only the tools to comply with climate obligations but also the capacity to innovate, grow, and lead in green markets. CREDIT4CE thus establishes a **scalable model of transnational cooperation**, ensuring that Central Europe's manufacturing SMEs contribute decisively to Europe's sustainable, climate-neutral future.