TERMS OF REFERENCES

WORKING GROUPS FOR THE DEVELOPMENT OF A STANDARDIZATION ROADMAP FOR INDUSTRIAL SYMBIOSIS

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RESPONSIBLE PARTNER: CEN AND CENELEC

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1 INTRODUCTION

Industrial symbiosis represents a collaborative approach where industries within a region or network exchange materials, energy, water, or by-products to create mutual benefits. By leveraging interconnected systems, industrial symbiosis enhances resource efficiency, reduces waste, and lowers environmental impacts. This process is central to advancing sustainability goals, supporting climate resilience, and accelerating the transition to a circular economy. To unlock its full potential, standardized frameworks and practices are essential for harmonizing methodologies, fostering trust, and enabling large-scale implementation. Its importance lies in its capacity to foster innovation, optimize resource use, and drive industrial transformation, aligning with global and European priorities such as the European Green Deal and the Circular Economy Action Plan.

The RISERS project ("A Roadmap for Industrial Symbiosis Standardisation for Efficient Resource Sharing") is dedicated to guiding the standardisation of industrial symbiosis to enhance resource efficiency across Europe. Launched under the European Union's Horizon Europe Programme, RISERS aims to address standardisation gaps and overcome barriers hindering efficient resource sharing. By collaborating with experts and practitioners from various sectors—including industry, policy, academia, and standardisation bodies—the project seeks to provide a comprehensive roadmap that will steer industrial symbiosis standardisation efforts in Europe toward greater efficiency and sustainability. This roadmap will be developed through an iterative and collaborative process, combining stakeholder input, thematic Working Groups, and expert analysis.

1.1 THE WORKING GROUPS

Several Working Groups are designed to support the development of a standardization roadmap for industrial symbiosis by focusing on specific thematic areas and synergies. The Working Groups will provide targeted inputs for specific sections of the roadmap, such as Priority Topics, Cross-cutting Topics, and Standardization Needs. Their purpose is to:

- Facilitate targeted discussions on the key themes and sectors identified, including steel slag and refractories, EV batteries, packaging, waste heat, textiles, biomass and waste wood, energy data, industrial symbiosis in general, and end-of-waste (EOW).
- Follow a structured approach to address challenges and opportunities in industrial symbiosis, aligned with priority topics identified during the project.
- Provide actionable recommendations that reflect the needs of both industry stakeholders and regulatory frameworks.

While the Working Groups are initially defined, they remain flexible and subject to refinement during the kick-off meeting to ensure alignment with project goals and stakeholder priorities. The groups cease at the latest with the end of the RISERS project (31 December 2026).

The objectives of the RISERS Working Groups are to:

- Identify and address key challenges, gaps, and opportunities in the standardization of industrial symbiosis, contributing directly to roadmap sections such as Priority Topics and Cross-cutting Topics.

- Indicate barriers in existing standards and policy frameworks through iterative workshops, stakeholder engagement, and expert review.
- Recommend best practices, guidelines, and further actions for standardization, using the outputs of each Working Group to ensure actionable and impact-driven results.
- Facilitate stakeholder engagement and collaboration across industries and regions, including SMEs, policymakers, Technical Committees, and academia.

2 SCOPE OF WORK

The Working Groups are meant to:

- Conduct research and gather data on existing practices in industrial symbiosis, focusing on Priority Synergies (e.g., within steel slag, textiles) and Cross-Cutting Topics (e.g., End-of-Waste criteria).
- Define standardization priorities in alignment with policy, regulatory, and market needs.
- Identify and assess barriers to market entry where standardization could facilitate solutions.
- Assess the potential to adapt the methodology of End-of-Waste (EoW) criteria development to support industrial symbiosis adoption.
- Develop thematic reports that consolidate findings, address challenges, and provide recommendations for standardization.

2.1 EXPECTED OUTCOMES

2.1.1 INTERIM REPORT (JUNE 2025):

Summarizes the Working Group's progress to date, including:

- Initial findings.
- Identification of key challenges and standardization gaps.
- Early recommendations.

Milestone: Presented and reviewed during the interim plenary session (June 2025).

2.1.2 FINAL REPORT (NOVEMBER 2025):

Provides the Working Group's validated contributions for their assigned theme:

- Comprehensive analysis of findings.
- Finalized recommendations for standardization.
- Supporting evidence for integration into the overall roadmap.

Milestone: Validated during the hybrid plenary session in Brussels (November 2025).

3 OPERATING PROCEDURES

REGISTRATION DEADLINE: 21 MARCH 2025

3.1 MEETINGS

KICK-OFF MEETING: ONLINE, 28 MARCH 2025 FROM 09:00 AM TO 11:00 AM CET

Introduce Working Group roles, objectives, and deliverables; presents the roadmap concept and structure.

3.1.1 WORKING GROUP MEETINGS:

1. **First round** (April–June 2025): Two online half-day sessions per Working Group to identify challenges and standardization needs. Output feeds into interim reports.
2. **Second round** (September–October 2025): One online half-day session per Working Group to validate findings and refine final recommendations (by November 2025).

3.1.2 PLENARY SESSIONS:

1. **Interim Online Plenary** (June 2025): Consolidates Working Group progress into a draft roadmap structure.
2. **Final Hybrid Plenary** (November 2025): Finalizes Working Group contributions for the roadmap.

3.1.3 DISSEMINATION PHASE

Share the finalized roadmap and collect final stakeholder feedback throughout 2026.

4 COMPOSITION AND MEMBERSHIP

Each Working Group will focus on a specific thematic area, such as steel slag & refractories, EV batteries, packaging, waste heat, textiles, biomass & waste wood, energy data or cross-cutting topics (e.g., IS in general, End-of-Waste criteria). The structure of each Working Group will include:

4.1.1 WORKING GROUP LEADERS

- Every Working Group has on WG Leader and optionally one Vice-Leader.
- Responsible for facilitating discussions, managing progress, and ensuring timely delivery of reports.
- Selected by the RISERS Coordination Committee based on expertise in industrial symbiosis or related fields, leadership experience, and availability to manage group tasks.

4.1.2 WORKING GROUP MEMBERS

Members of Working Groups are composed of representatives from diverse sectors, including:

- Industry stakeholders: Companies from relevant sectors.
- SMEs: To ensure the inclusion of smaller enterprises' perspectives.
- Standardization bodies: Experts familiar with existing technical standards.
- Researchers and academia: Providing technical expertise and insights.
- Policy experts: Ensuring alignment with regulatory frameworks.
- Other societal stakeholders (optional): NGOs, consumer organizations, or other relevant groups like business associations, technology parks, thematic clusters, etc.

Subgroups (as needed) are established within a Working Group to address specific topics or challenges (e.g., for single standards or tackling technical issues).

4.2 MEMBERSHIP CRITERIA

To ensure effectiveness and diversity, members of the Working Groups must meet the following criteria:

- **Expertise**: Demonstrated experience in industrial symbiosis or related fields, such as circular economy, waste valorization, or resource management.
- **Sector representation**: Diverse participation from industry, SMEs, academia, policymakers, and standardization experts.
- **Commitment**: Availability to actively participate in workshops, meetings, and deliverable preparation.
- **Geographical diversity**: Representation from various regions across Europe to capture different contexts and practices.
- **Gender balance**: Efforts will be made to ensure gender balance in the composition of the Working Groups and leadership roles, in line with the project's commitment to inclusivity.

5 ROLES AND RESPONSIBILITIES

CEN and DIN will provide administrative support: E.g., scheduling meetings, managing resources, and supporting the use of collaboration platforms.

5.1 WORKING GROUP MEMBERS

The members of each Working Group are responsible for:

- Actively participating in meetings, discussions, and collaborative activities.
- Contributing expertise to research, analysis, and drafting of thematic reports.
- Reviewing interim and final deliverables to ensure accuracy and alignment with the group's objectives.

- Providing sector-specific insights, particularly for identifying barriers, opportunities, and standardization needs in their thematic area.

5.2 WORKING GROUP LEADER/VICE-LEADER

The Working Group Leader (and Vice-Leader, if appointed) are responsible for:

- Facilitating meetings: Organizing discussions, ensuring participation, and maintaining focus on objectives.
- Overseeing expected outcomes: Ensuring timely and high-quality preparation of the interim and final reports.
- Coordinating with the RISERS Coordination Committee: Providing updates on progress and aligning activities with the overall roadmap timeline.
- Managing subgroups (if applicable): Assigning tasks and monitoring progress within any established subgroups.

5.3 COORDINATION COMMITTEE

The Coordination Committee is responsible for managing the Working Groups and ensuring alignment with the project's objectives.

5.3.1 COMPOSITION

- RISERS Work Package (WP) leaders.
- Representatives of the RISERS Advisory Board (optional).
- Representatives from CEN-CENELEC and DIN as lead organizations.

5.3.2 RESPONSIBILITIES:

- Selection of Working Group leaders.
- Validation of reports: Reviewing and approving all interim and final reports produced by the Working Groups. It has the authority to make final edits to ensure consistency and alignment with the overall roadmap.
- Strategic guidance: Ensuring that the Working Groups' outputs align with the objectives and structure of the roadmap.
- Coordination and communication: Facilitating collaboration between Working Groups, addressing overlaps, and managing dependencies.

5.4 DECISION-MAKING

Working Groups aim to achieve consensus on key decisions, ensuring recommendations reflect a balanced view. They follow meeting rules by CEN and CENELEC.

All deliverables and interim and final reports are subject to review, validation, and approval via consensus by the RISERS Coordination Committee.

In case of disputes or unresolved issues, the Coordination Committee will decide. If a dispute cannot be resolved there, CEN and CENELEC, DIN and Project Coordinator will make a final decision.

6 CONTACT INFORMATION

In case of questions, please contact Sebastian Vogel (CEN and CENELEC) via svogel@cencenelec.eu.