



## **D9.4. GENDER DIMENSION ASSESSMENT AND GUIDELINES**

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NEO-CYCLE

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## ABBREVIATIONS

EIGE	European Institute for Gender Equality
ERA	European Research Area
EU	European Union
GEAR	Gender Equality in Academia and Research
GEP	Gender Equality Plan
KPI	Key Performance Indicator
LCA	Life Cycle Assessment
LCSA	Prospective Life Cycle Sustainability Assessment
NGO	Non-Government Organisation
PPE	Personal Protective Equipment
TFEU	Treaty on the Functioning of the European Union

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## 1. Abstract

This deliverable, 9.4 “Gender dimension assessment and guidelines,” is part of Task 9.5, “Gender issues considerations across the value chain” (M1-M12).

The deliverable 9.4 provides a structured analysis of gender-related dynamics within the NEO-CYCLE project and offers targeted recommendations to foster gender equality across its activities. Recognising the essential role of gender inclusivity in promoting innovation, sustainability, and fairness, this document evaluates the current state and potential for gender-responsive improvements within the project's value chain.

In alignment with the Horizon Europe framework and key EU policies—including the Gender Equality Strategy 2020–2025, the forthcoming 2026–2030 agenda, and the ERA Policy Agenda 2025–2027—this report explores gender balance in engineering, research, and innovation with a focus on circular economy and upcycling practices.

The assessment draws on mixed methods, including partner audits, policy analysis, stakeholder consultation, and baseline metrics collection. It evaluates gender representation within project teams, identifies structural gaps in partner organisations, and highlights the advisability of improving women's involvement in technical roles and leadership positions.

The deliverable outlines actionable guidelines for all partners, focused on inclusive recruitment, targeted training, gender-sensitive design practices, and systematic monitoring via key performance indicators (KPIs). By embedding gender equality into strategic governance and day-to-day operations, the NEO-CYCLE project positions itself as a role model for inclusive and socially responsible research in sustainable materials recovery.

## 2. Introduction and Methodology

### 2.1 Introduction

**NEO-CYCLE project** aims to be consistent with the UN<sup>1</sup> and EC<sup>2</sup> gender equality strategies 2020-2025, including specific aspects where the gender dimension will be incorporated:

- 1) Baseline analysis in each of the project's demonstration processes and areas, including consideration of gender balance and gender equality in the main activities, proposing pathways for transformation,
- 2) Analysis of behavioural changes and governance addressing differing roles of gender in attitudes toward recycling/upcycling activities, considering this when designing of the processes,
- 3) Gender as a cross-cutting theme in the research, being inherent to activities to promote socio-labour inclusion in the upcycling value chain,
- 4) Gender differences in perceptions of recycling/upcycling and sustainability,
- 5) Responsible Research and Innovation (RRI) good practices will be used to inform and design the methodological approach in **NEO-CYCLE**.

Gender equality is not only a human rights imperative but also a recognised pillar of excellence in research, innovation, and sustainable development. Within the Horizon Europe framework, gender equality is both a legal requirement and a strategic objective—explicitly operationalised through eligibility criteria, evaluation criteria, and performance indicators. For projects like NEO-CYCLE, which operate at the intersection of waste upcycling, circular economy, and societal transformation, addressing the gender dimension is essential to ensuring that innovation is socially inclusive and scientifically rigorous.

Deliverable 9.4 has been developed to serve as a **strategic framework for assessing and integrating gender dimensions** across all aspects of the NEO-CYCLE project. It identifies where and how gender perspectives intersect with the project's objectives, activities, and outcomes, and provides a roadmap for the practical implementation of gender-sensitive actions.

This deliverable aims to ensure that gender equality is not treated as a compliance checkbox but as a lever for systemic transformation. It aims to foster inclusive innovation ecosystems, eliminate barriers to participation and leadership, and ensure that technological advancements and sustainability goals benefit all genders equitably.

### 2.2 Objectives

This document aims to:

- Conduct a structured assessment of gender participation, representation, and responsiveness within the NEO-CYCLE project activities.
- Identify both structural and contextual barriers to gender equity in the domain of circular and waste recycling-focused R&I.

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<sup>1</sup> <https://genderequalitystrategy.undp.org/>

<sup>2</sup> [https://commission.europa.eu/strategy-and-policy/policies/justice-and-fundamental-rights/gender-equality/gender-equality-strategy\\_en](https://commission.europa.eu/strategy-and-policy/policies/justice-and-fundamental-rights/gender-equality/gender-equality-strategy_en)

- Translate EU-level gender equality frameworks—such as the **ERA Policy Agenda**, the **EU Gender Equality Strategy 2020–2025** and the **forthcoming 2026–2030 Strategy**—into **project-level actions** and measurable outcomes.
- Equip project partners with actionable tools, indicators, and guidelines for **gender mainstreaming** across governance, research content, innovation activities, and stakeholder engagement.

### 2.3 Target Audience

The insights and recommendations presented in this deliverable are intended for:

- **NEO-CYCLE consortium members**, particularly coordinators, WP leaders, and Task leaders.
- **European Commission reviewers and policy bodies** responsible for monitoring gender compliance.
- **Researchers and practitioners** working in the domains of engineering innovation, upcycling technologies, and sustainable development.
- **Gender equality officers and institutional leadership** within the partner organisations.
- **External stakeholders**, including technology providers, city officials, NGOs, and civil society actors involved in co-creation activities.

### 2.4 Methodological Approach

The assessment and guidelines outlined in this document are informed by a multi-level and mixed-method methodology, grounded in EU policy frameworks and best practices:

- **Desk Review** of relevant EU legal documents on Gender states. The deliverable also considers the main principles of documents: the EU Gender Equality Strategy 2020–2025 and the draft 2026–2030 strategy; the European Research Area Policy Agenda, specifically Action 5 on gender equality and inclusiveness. An essential part of the desk review was the analysis of materials and recommendations from the European Institute for Gender Equality (EIGE) and publications from EU target projects on supporting gender balance in research and innovation.
- **Partner Mapping** and a consortium-level GEP audit were conducted in M06, including leadership, training participation, and institutional readiness analyses.
- **Work Package Influence Matrix**, identifying the degree to which each WP can impact gender outcomes, and assigning priority levels for intervention.
- **Partner Consultations**, including a survey and a dedicated workshop on gender aspects in engineering.
- **KPIs**, aligning NEO-CYCLE targets with Horizon Europe average figures. The list of KPIs has been agreed upon in consultation with partners. These KPIs will be monitored during the project's implementation.

This methodological framework ensures that the deliverable is evidence-based and tailored to the realities of project implementation, providing a robust foundation for meaningful, measurable, and sustainable gender integration.

## 3. Gender Aspects in Research, Innovation, and Circular Economy Context

### 3.1 EU Gender Policy Framework and Definitions

Gender equality is a cornerstone of the European Union's (EU) values and legal framework. Article 8 of the Treaty on the Functioning of the European Union (TFEU) states that gender equality must be integrated across all EU policies and actions. In research and innovation (R&I), the European Commission has further reinforced this through Horizon Europe, which mandates Gender Equality Plans (GEPs) as a condition for funding eligibility, requires gender balance in evaluation panels, and demands integration of the gender dimension in research content.

Horizon Europe introduced mandatory GEPs for public bodies, higher education institutions, and public and private not-for-profit research institutions.

To qualify as eligible, the GEP must<sup>3</sup>:

- Be a public document published on the institution's website.
- Include dedicated resources (staff and funding).
- Contain sex/gender-disaggregated data collection and monitoring.
- Include training and capacity building on gender equality.
- Address areas such as work-life balance, leadership representation, and prevention of gender-based violence.

The ERA Policy Agenda (2022–2024)<sup>4</sup> supports structural change in R&I institutions, encouraging the adoption of inclusive GEPs and measures to combat gender-based violence and discrimination. The European Council formally adopted the second ERA Policy Agenda (2025–2027)<sup>5</sup> in May 2025. One of its key structural policies is “Strengthening gender equality and inclusiveness in the ERA, notably with an intersectional approach.

The new Agenda aligns with prior initiatives such as the ERA Action 5 “Promote gender equality and foster inclusiveness” 2022–2024, continuing its deliverables on safe R&I environments and gender-responsive funding frameworks.

A key deliverable is a Zero-Tolerance Code of Conduct addressing gender-based violence in academia and research, led by the ERA Forum subgroup under Action 5. The 2025–2027 Agenda formally elevates gender equality as a structural pillar of European R&I policy—not merely a cross-cutting consideration.

It signals a shift toward intersectional inclusion, with stronger accountability, coordinated monitoring, and capacity building across institutions.

For projects like NEOCYCLE, alignment with this Agenda enables compliance with EU expectations and provides a framework for deeper systemic gender integration across governance, R&I content, and dissemination—especially in green and technical disciplines.

The EU Gender Equality Strategy 2020–2025<sup>6</sup> outlines clear objectives for closing gender gaps in leadership, pay, and innovation. A follow-up strategy for 2026–2030 is currently under development, aiming to deepen intersectional and systemic reforms.

<sup>3</sup> <https://op.europa.eu/en/publication-detail/-/publication/ffcb06c3-200a-11ec-bd8e-01aa75ed71a1>

<sup>4</sup> <https://european-research-area.ec.europa.eu/policy-agenda-2022-2024>

<sup>5</sup> <https://www.consilium.europa.eu/en/press/press-releases/2025/05/23/council-endorses-the-european-research-area-policy-agenda-for-the-next-three-years/>

<sup>6</sup> [https://commission.europa.eu/strategy-and-policy/policies/justice-and-fundamental-rights/gender-equality/gender-equality-strategy\\_en](https://commission.europa.eu/strategy-and-policy/policies/justice-and-fundamental-rights/gender-equality/gender-equality-strategy_en)

The European Institute for Gender Equality (EIGE)<sup>7</sup> plays a central and strategic role in shaping and supporting the development of EU gender equality policies — especially in research and innovation (R&I) through tools like the GEAR Tool and the Gender Statistics Database. EIGE contributes to shaping the gender dimension in the European Research Area and ensures alignment of national gender policies with Horizon Europe requirements.

Partners of the NEO-CYCLE consortium and other stakeholders can find helpful information on the EIGE website and undergo training on specific gender policy issues in EU programmes.

### 3.2 Brief Overview of the Gender Dimension in Sustainability and Upcycling

The gender dimension in sustainability and upcycling has become increasingly prominent in EU policy and practice. Women tend to engage more in sustainable consumption behaviours but remain underrepresented in decision-making positions related to sustainability research, design, and innovation<sup>8</sup>. The She Figures 2024<sup>9</sup> report reveals that only 33% of researchers in the EU are women, with even lower representation in engineering and environmental sciences.

The transition to a circular economy, which emphasises reuse, upcycling, repair, and sustainable materials, carries significant gender implications that are often neglected. Women, who are disproportionately affected by environmental degradation, remain underrepresented in leadership and innovation roles within sectors such as ecological engineering, clean technology, and materials science. Moreover, the unpaid or informal labour often performed by women, including domestic repair, reuse, and resource recovery, is frequently unacknowledged. Failure to incorporate gender-specific needs into design processes—such as ergonomics and inclusive safety equipment—can exacerbate gender inequities, further marginalising women. While women are disproportionately affected by environmental degradation, they remain underrepresented in leadership and innovation roles in ecological engineering, clean technology, and materials science.

Key statistics from She Figures 2024<sup>10</sup> and related reports reveal:

- In sectors like AI/digital, women represent just 22% of doctoral graduates, and only 31% of Horizon Europe project coordinators are women.
- STEM disciplines show persistent gaps. For example, women are underrepresented in engineering and computing despite accounting for 20–30% of graduates.
- Women-led startups gain only about 7% of venture capital funding, despite stronger growth outcomes in revenue metrics.

Inclusive and gender-diverse teams are statistically more innovative and effective. For a circular-economy project like NEOCYCLE, incorporating gender perspectives into governance, design, and stakeholder engagement is both a compliance requirement and a strategic opportunity to enhance impact.

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<sup>7</sup> <https://eige.europa.eu/>

<sup>8</sup> <https://pmc.ncbi.nlm.nih.gov/articles/PMC8693171>

<sup>9</sup> <https://projects.research-and-innovation.ec.europa.eu/en/knowledge-publications-tools-and-data/interactive-reports/she-figures-2024>

<sup>10</sup> <https://projects.research-and-innovation.ec.europa.eu/en/knowledge-publications-tools-and-data/interactive-reports/she-figures-2024>

It is helpful for NEO-CYCLE project partners to use She Figures 2024 data tool<sup>11</sup> to analyse the state of gender balance in their countries in research and innovation.

An analysis of researchers' publications and materials from EU-targeted projects on gender balance in research and innovation allows us to make the following conclusions:

- Research shows that women are more likely to engage in sustainable consumption practices but are excluded from decision-making in green innovation. Their perspectives are critical in ensuring just, inclusive transitions.
- In many economies, women perform informal repair, reuse, or recycling work that is often unpaid or underpaid. Recognising and integrating this contribution into formal circular economy models is a gender-equality imperative.
- Upcycled and circular products must be designed with inclusive ergonomics and usability. Historical design biases have disproportionately excluded women, especially in transport, mobility, and personal protective equipment (PPE) design.
- Horizon-funded projects such as WASTELESS, GreenTech, and Women4Green have demonstrated how gender-sensitive design and inclusive innovation frameworks can improve sustainability outcomes and increase female participation in green-tech sectors.

### 3.3 Challenges and Barriers to Achieving Gender Balance in Engineering

Despite years of progressive EU policy and institutional reforms, engineering and technical disciplines remain highly gender imbalanced. Women are systematically underrepresented in enrolment and career entry points and leadership roles, innovation funding, and recognition mechanisms across academia and industry. Engineering remains one of the most gender-unequal fields in R&I. Women face systemic challenges such as gender stereotypes in education, a lack of role models and mentors, exclusion from informal professional networks, and workplace cultures that are not inclusive. As per She Figures 2024, women hold only 20% of full engineering professors across the EU and are significantly underrepresented in patenting and innovation leadership.

In technical environments such as those relevant to NEO-CYCLE, these disparities manifest in poor representation in design and governance, increased exposure to risks due to poorly fitted PPE, and reduced access to funding or start-up leadership opportunities. Addressing these barriers requires gender-sensitive recruitment, redesign of workspaces and tools, inclusive training programs, and systematic integration of sex and gender analysis in all research and design stages.

Based on an analysis of EU and UN publications and strategic documents, we briefly describe below the main barriers to achieving gender balance in engineering.

#### 1. Persistent Gender Gaps in Engineering

According to She Figures 2024<sup>12</sup>:

- Only 22% of engineers and technology professionals in the EU are women.
- Women comprise just 21% of full professors in engineering and technology disciplines.
- The gender pay gap in STEM remains over 15%, even after adjusting for experience and education levels.

<sup>11</sup> <https://projects.research-and-innovation.ec.europa.eu/en/statistics/performance-indicators/she-figures-2024-data-tool/#/>

<sup>12</sup> <https://projects.research-and-innovation.ec.europa.eu/en/knowledge-publications-tools-and-data/interactive-reports/she-figures-2024>

## 2. Structural and Institutional Barriers<sup>13</sup>

- **a. Unconscious Bias in Recruitment and Promotion**

Biases embedded in hiring processes disadvantage women candidates:

- Men are often perceived as more competent in technical interviews, regardless of equivalent qualifications.
- Women's contributions in team projects are more frequently undervalued.
- Informal "boys' club" networks can shape promotion paths and mentoring access.

- **b. Work-Life Balance and Flexibility**

Engineering careers are often associated with long hours, mobility demands, and low flexibility<sup>14</sup>:

- Women still perform 2.8 more hours than men on unpaid care and domestic work, limiting their capacity to commit to rigid work schedules<sup>15</sup>.
- Lack of part-time or flexible senior roles deters women from remaining in the pipeline.

- **c. Gender Pay Gap and Role Segregation**

Even within engineering:

- Women are clustered in less technical or support roles (e.g., data analysis, QA).
- Senior technical positions (e.g., software architecture, mechanical design leads) remain male-dominated.
- Female engineers earn 15–20% less than their male peers across Europe<sup>16</sup>.

## 3. Cultural and Educational Barriers

- **a. STEM Pipeline Leaks**

Stereotypes and a lack of role models affect girls early:

- In OECD countries, only 0.5% of 15-year-old girls aspire to ICT careers, compared to 5% of boys<sup>17</sup>.
- Female representation in engineering university programs across Europe is often below 30%, with some countries showing severe drops in enrolment after the first year.

- **b. Glass Ceiling and Masculinised Workplace Culture**

Women in engineering frequently report:

- Lack of mentorship and leadership support.
- Experiences of microaggressions, sexual harassment, or exclusion from informal networks.
- Fewer opportunities to access innovation funding or lead high-profile technical work packages.

## 4. Entrepreneurship and Innovation Barriers<sup>18</sup>

- Only 23% of founders in mid- and high-tech startups are women.
- Female-led businesses receive just 7% of venture capital in emerging markets.
- 44% of women tech founders have experienced harassment by investors.

## 5. Safety and Ergonomics in Engineering Workspaces

Engineering roles frequently involve interaction with equipment, machinery, and fieldwork:

- Standard PPE often does not fit female body dimensions.

<sup>13</sup> <https://www.unwomen.org/en/articles/facts-and-figures/facts-and-figures-economic-empowerment>

<sup>14</sup> [https://www.ilo.org/sites/default/files/wcmsp5/groups/public/%40dgreports/%40gender/documents/publication/wcms\\_732791.pdf](https://www.ilo.org/sites/default/files/wcmsp5/groups/public/%40dgreports/%40gender/documents/publication/wcms_732791.pdf)

<sup>15</sup> <https://data.unwomen.org/publications/forecasting-time-spent-unpaid-care-and-domestic-work>

<sup>16</sup> [https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Gender\\_pay\\_gap\\_statistics](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Gender_pay_gap_statistics)

<sup>17</sup> <https://www.oecd.org/en/topics/policy-issues/gender-equality.html>

<sup>18</sup> <https://genderdata.worldbank.org/en/topics/entrepreneurship>

- Safety risks in laboratories or production environments are often assessed using male-oriented baselines.
- Design and innovation processes rarely include sex/gender analysis unless explicitly mandated.

<b>Barrier</b>	<b>Impact</b>	<b>Policy/Program Response</b>
Gender stereotypes in STEM	Leaky pipeline in early education	Horizon Europe STEM engagement programs; EIGE STEM toolkit
Unconscious hiring bias	Underrepresentation in senior roles	Gender-balanced recruitment, blind screening
Lack of work flexibility	Attrition of women mid-career	Flexible working, part-time leadership roles, increased participation from men in domestic work
Gender pays gap	Lower lifetime earnings	Pay transparency and audits (Directive 2023/970)
Harassment and unsafe workplaces	High dropout rates	Zero-tolerance policies; GEPs with safety protocols
Funding discrimination	Low access to innovation capital	EIC Women Innovators Prize, Women TechEU

**Table 1: Summary of Key Barriers and Policy Responses**

## 4. Gender guidelines for NEO-CYCLE project partners

### 4.1 Gender Balance Within the Project Team

This section presents the gender composition of project staff and participants across key NEO-CYCLE activities, based on validated partner data.

As of the latest reporting cycle, the overall project team demonstrates good gender balance but reveals underrepresentation of women in key technical and scientific tasks.

According to project data (project list of contacts and lists of events' participants):

- The overall project workforce includes 53 women and 51 men (more than 50% women).
- At the project kick-off meeting, 21 men and 22 women participated (approx. 59% women).
- At the Athens project meeting, 29 men and 20 women participated (approx. 41% women).
- At the project online meeting on gender aspects in engineering projects, 18 men and 22 women (55% women)

These participation rates are relevant to Horizon Europe's gender parity targets. The project has a good balance of administrative and communication tasks. Still, it would be advisable to improve the representation of women in engineering and implementation-heavy work packages such as WP4–WP6. We recommend that all partners proactively identify gender imbalances and implement corrective actions such as equitable task assignment, rotation of leadership roles, and recruitment of women for technical roles.

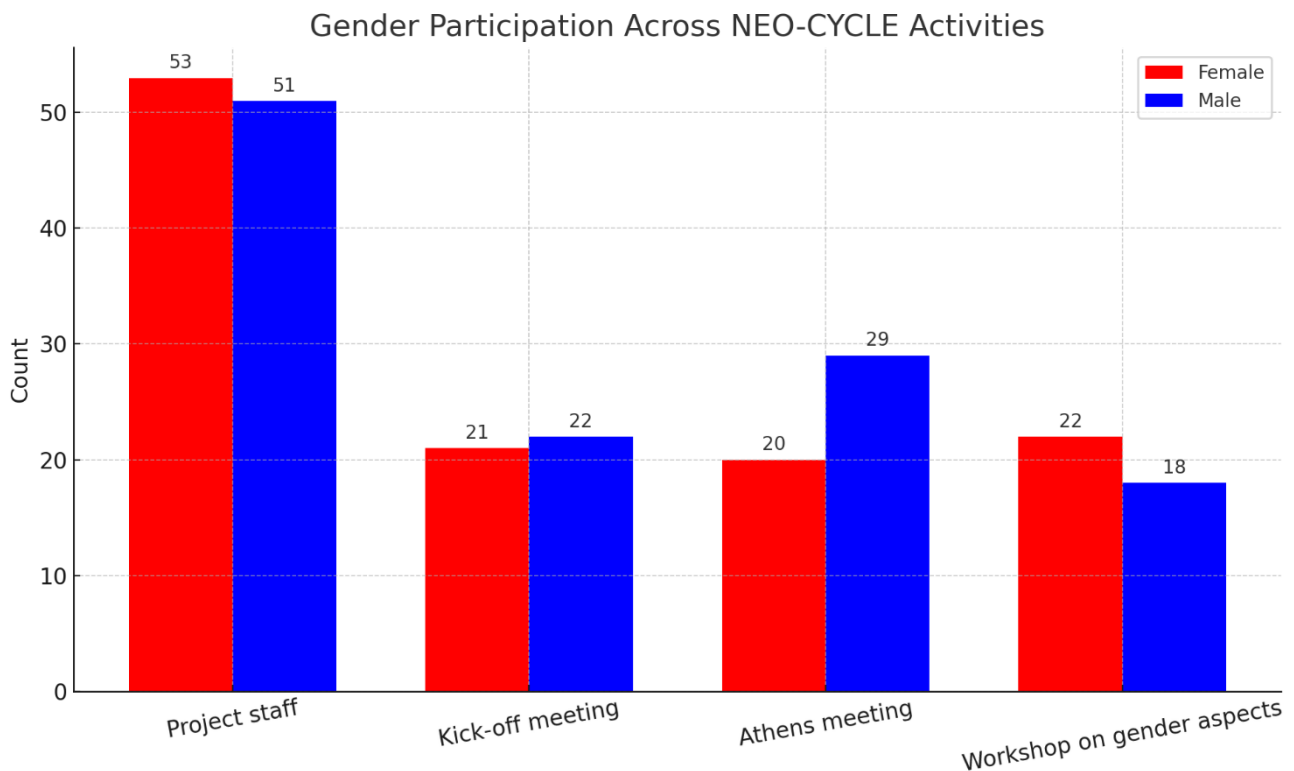


Figure 1: Gender Participation Across NEO-CYCLE Activities

## 4.2 Recommended Actions for Project Partners

Fourteen NEO-CYCLE partners have a gender equality plan (GEP). Eight business partners do not have a GEP.

The project has a gender-balanced staff involved in implementing the project objectives. This data will be monitored during the project implementation. Monitoring will be based on measuring KPIs agreed with partners.

The NEO-CYCLE project will promote gender equity in partners' workforce, training programs, and decision-making processes. Social inclusion and gender issues will be assessed in each project stage (processes fine-tuning, scale-up, upcycling, and product validation).

The project partners will follow the principles of gender equality and inclusion when engaging their staff in project activities, communicating with stakeholders, and conducting various project activities. These principles will be considered in the preparation of documents such as the Plan for Dissemination and Exploitation of Results (PEDR) and Prospective Life Cycle Sustainability Assessment (LCSA)

The main recommended actions for gender equality and inclusion are below:

### 1. Education and Early Engagement

- Encourage engineering education for girls and women through mentorship programs and scholarships. Engaging girls and women in technical circles in hydrometallurgy and electrochemistry for dissolving and separating metals, as well as in courses to attract women to engineering and management positions
- Increase the visibility of female engineers as role models.
- Provide additional technical training programs for women, youth, migrants, and individuals from low-income backgrounds to enter engineering and upcycling careers.

### 2. Inclusive Workplace Policies

- Ensure equal pay and promotion opportunities for women.
- Create flexible working policies to support work-life balance and provide flexible working arrangements (e.g., remote work, parental leave, childcare support).
- Implement gender-sensitive recruitment to attract more women into engineering roles.
- Diverse and inclusive teams generate more creative solutions in upcycling and sustainability.
- Ensure educational materials and training facilities are accessible to people with disabilities.

### 3. Leadership and Representation

- Support women in leadership positions through mentorship and sponsorship.
- Involvement of girls and women in NEO-CYCLE online workshops for women's leadership
- Encourage women's participation in dissemination and communication activities, conference attendance, publishing, social media posts, etc.
- Support the participation of project implementers in engineering networks that focus on the broader involvement of women and girls.
- Develop zero-tolerance policies for discrimination and harassment.

### 4. Community Engagement and Representation

- Actively engage local communities in NEO-CYCLE initiatives, particularly in waste collection and upcycling processes.

- Ensure that product design and material innovation consider accessibility needs (e.g., ergonomic designs, easy-to-use recycled materials).
- Ensure marginalised voices are heard in public consultations, policy discussions, and project planning.
- Support women and informal workers in the recycling sector with fair wages and safe working conditions.

### 4.3 Monitoring and Key Performance Indicators (KPIs)

Effective monitoring and experience-sharing processes between partners are essential to the project's gender equality and inclusion policies.

We mean that during the project implementation period, it is advisable to carry out the following actions:

- Use gender-disaggregated data to track the impact of NEO-CYCLE initiatives.
- Conduct annual diversity and inclusion reviews across all project areas.
- Create an inclusion task force responsible for ensuring the implementation of these strategies.
- Share best practices and success stories to inspire continuous improvement.

We discussed with the project coordinator and partners and agreed on a core set of Key Performance Indicators for monitoring gender equality and inclusion.

These KPIs ensure that inclusion efforts are measurable, and progress can be tracked effectively.

#### 1. Gender Balance KPIs

- Percentage of women in the project team activity during the whole period of the project implementation (target: aim for at least 45%)
- Percentage of women in leadership roles within the project (e.g., work packages and tasks leaders, coordinator)
- Gender distribution in technical roles vs. administrative roles
- Gender balance among participants in technical courses
- Number of women hired as external experts or promoted in engineering and sustainability project activities.
- Gender balance in project promotion activities, e.g. presentations at conferences and publications.

#### 2. Social Inclusion KPIs

- Number of disadvantaged individuals trained in upcycling and circular economy courses.
- Percentage of women and minority groups participating in skill-building workshops
- Accessibility of training materials (availability in multiple languages, adapted for disabilities, etc.)
- Number of local community members engaged in project activities

Regular progress reviews and public dissemination of results will strengthen the project's gender accountability and compliance with Horizon Europe guidelines.

## 5. CONCLUSIONS

The NEO-CYCLE project has made a significant effort to embed gender equality as a strategic and operational priority across its research, innovation, and implementation activities. This Deliverable 9.4 demonstrates that gender is not only a human rights concern but also a catalyst for innovation, inclusion, and sustainability—particularly in technical fields such as upcycling and circular economy processes.

Throughout this assessment, we applied a combination of policy analysis, gender audits, institutional mapping, and stakeholder engagement, guided by EU frameworks including:

- The **EU Gender Equality Strategy 2020–2025** and the upcoming **2026–2030 strategy**
- The **European Research Area (ERA) Policy Agenda 2025–2027**, including Action 5 on gender equality and intersectionality
- Requirements of **Horizon Europe** regarding Gender Equality Plans (GEPs), gender-balanced participation, and gender integration in research content
- Evidence from **She Figures 2024**, the **European Institute for Gender Equality (EIGE)**, and related Horizon-funded projects

### Key Findings:

- **Gender Representation:** The NEO-CYCLE team demonstrates good overall gender balance, but it is advisable to pay special attention to the involvement of women in technical and leadership roles.
- **Institutional Readiness:** Fourteen out of 22 project partners have approved GEPs. However, several SMEs and technical partners still lack structured approaches to gender integration.
- **Project Activities:** Gender considerations are present in project management, communication, dissemination, and LCSA (WP9 and WP10), but need stronger integration in upstream technical WPs (WP4–WP6).
- **Barriers Identified:** These include a gender imbalance in engineering professions, unconscious biases, underrepresentation of women in decision-making, and a lack of gender-specific safety protocols (e.g., for PPE in lab work).
- **Positive Practices:** Gender was discussed in workshops, and a KPI-based monitoring system has been introduced. Partners show openness to further training and adjustments in recruitment and task assignment.

### Key Recommendations:

- Strengthen the presence of women in technical and scientific roles across the work packages.
- Promote internal accountability by tracking KPIs such as female leadership, gender in training programs, and diversity in dissemination.
- Integrate gender-sensitive design and stakeholder co-creation in product development and circular solutions.
- Continue knowledge exchange with EU gender platforms and integrate EIGE's GEAR Tool in institutional practices.
- Regularly report progress to the European Commission using gender-disaggregated data.

### Final Remark

NEO-CYCLE is positioned as a model for gender mainstreaming in circular economy and upcycling R&I projects. With continued commitment from partners and leadership, the project can help shift the gender paradigm in materials science and green innovation, supporting a more inclusive and equitable research ecosystem in line with EU policy goals.

## 6. Annexes

### Annex 1. List of NEO-CYCLE project tasks and the influence of gender aspects

WP	Name of task	Lead partner	Gender aspects
WP1	Task 1.1. Overall coordination	IDE	High
WP1	Task 1.2. Financial and administrative management	IDE	High
WP1	Task 1.3. Data and Risk Management	LCI	Medium
WP2	Task 2.1. Overall coordination	IDE	High
WP2	Task 2.2. Financial and administrative management	IDE	High
WP2	Task 2.3. Data and Risk Management	LCI	Medium
WP3	Task 3.1. Overall coordination	IDE	High
WP3	Task 3.2. Financial and administrative management	IDE	High
WP3	Task 3.3. Data and Risk Management	LCI	Medium
WP4	Task 4.1. Waste inventory and magnets characterisation	ECORESET	Medium
WP4	Task 4.2. Nd extraction via solid-state chlorination (SSC) approach	TUF	Low
WP4	Task 4.3. Electrochemical Nd extraction	TUF	Low
WP4	Task 4.4. Metals extraction and selective separation	IKTS	Low
WP5	Task 5.1. Upscaling of solid-state chlorination process for metals recovery	TUF	Medium
WP5	Task 5.2. Upscaling of Nd electrodeposition	RMF	Low
WP5	Task 5.3. Upscaling of metal separation	IKTS	Medium
WP5	Task 5.4: Characterisation of streams from upscaled experiments for reaching targeted qualities	IKTS	Medium
WP6	Task 6.1. Suzuki synthesis for API using B	UPV	Low
WP6	Task 6.2: API synthesis and Nd polymerisation via Nd catalysis	UNIVPV	Low
WP6	Task 6.3. Fe nanoparticles for ammonia and suzuki reaction	LUR	Low
WP6	Task 6.4. Fe-Nd catalysts for ammonia synthesis and decomposition reactions	WUT	Low
WP7	Task 7.1. Multidisciplinary design optimisation of the extraction processes	IDE	Medium
WP7	Task 7.2. Optimised engineering design of extraction processes & robust control	IDE	Medium
WP7	Task 7.3. Integrated and flexible processes through Digital Twins development	IDE	Medium
WP7	Task 7.4. Advanced monitoring and sensing	IKTS	Low
WP7	Task 7.5. Data Mining and Interoperability	IDE	Medium
WP8	Task 8.1: Validation of API synthesis via Nd catalysts	FLAMMA	Medium

WP	Name of task	Lead partner	Gender aspects
WP8	Task 8.2: Validation of the polymerisation via Nd catalysis	COMAR	Medium
WP8	Task 8.3: Validation of API synthesis via B catalysis	FLAMMA	Medium
WP8	Task 8.4: H2 economy demonstration	CASALE	Medium
WP9	Task 9.1: Preliminary Life Cycle Assessment (LCA) and Life Cycle Cost (LCC).	HOLOSS	High
WP9	Task 9.2: Preliminary social Life Cycle Assessment (s-LCA)	HOLOSS	High
WP9	Task 9.3: Preliminary Energy Efficiency and Techno-Economic Assessment	UNITO	High
WP9	Task 9.4: Circular economy and Criticality indicators	UNITO	High
WP9	Task 9.5: Gender issues considerations across the value chain	AEI	High
WP9	Task 9.6: Digital product passport (DPP)	UPC	High
WP10	Task 10.1: Life Cycle Assessment (LCA) and Life Cycle Cost (LCC)	HOLOSS	High
WP10	Task 10.2: Social Life Cycle Assessment (s-LCA)	HOLOSS	High
WP10	Task 10.3: Final Energy Efficiency and Techno-Economic Assessment (TEA)	UNITO	High
WP10	Task 10.4: Optimisation of production planning and green logistics	FHA	High
WP10	Task 10.5: Digital product passport (DPP)	UPC	High
WP10	Task 10.6: Impacts on Regulations, the vital role of Public Authorities	REG	High
WP11	Task 11.1. Plan for the Dissemination and Exploitation of Results, including communication activities	LCI	High
WP11	Task 11.2. Communication and Dissemination activities	LCI	High
WP11	Task 11.3. Clustering and networking at different scales and stakeholders' engagement	ISMC	High
WP11	Task 11.4. Synergies with S3 regions, EU industrial clusters and RMIS	ISMC	High
WP11	Task 11.5. IP Management	LCI	High
WP11	Task 11.6. Exploitation of results and market potential assessment	LCI	High
WP11	Task 11.7. Skills strategy and training activities per specific sector	AEI	High
WP12	Task 12.1. Plan for the Dissemination and Exploitation of Results including communication activities	LCI	High
WP12	Task 12.2. Communication and Dissemination activities	LCI	High
WP12	Task 12.3. Clustering and networking at different scales and stakeholder's engagement	ISMC	High

<b>WP</b>	<b>Name of task</b>	<b>Lead partner</b>	<b>Gender aspects</b>
WP12	Task 12.4. Synergies with S3 regions, EU industrial clusters and RMIS	ISMC	High
WP12	Task 12.5. IP Management	LCI	High
WP12	Task 12.6. Exploitation of results and market potential assessment	LCI	High
WP12	Task 12.7. Skills strategy and training activities per specific sector	AEI	High
WP12	Task 12.8. Standardisation assessments	ASRO	High
WP13	Task 13.1. Plan for the Dissemination and Exploitation of Results including communication activities	LCI	High
WP13	Task 13.2. Communication and Dissemination activities	LCI	High
WP13	Task 13.3. Clustering and networking at different scales and stakeholder's engagement	ISMC	High
WP13	Task 13.4. Synergies with S3 regions, EU industrial clusters and RMIS	ISMC	High
WP13	Task 13.5. IP Management	LCI	High
WP13	Task 13.6. Exploitation of results and market potential assessment	LCI	High
WP13	Task 13.7. Skills strategy and training activities per specific sector	AEI	High
WP13	Task 13.8. Standardisation assessments	ASRO	High
WP13	Task 13.9. Business model development	LCI	High