WASTE TO HYDROGEN

# Gender Illustration Final Report

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| Deliverable No.: | 7.5 |
| Project Acronym: | WASTE2H2 |
| Full Title: Waste to Hydrogen | |
| Grant Agreement No.: | 952593 |
| Work package No.: | Project Management and Coordination |
| Work package Title: Scientific and Technological Strategies on Gasification and Hydrogen Technologies | |
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| Date: | 24/11/2023 |
| Status: | Final |
| Dissemination level: | Public |

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 952593

## Abstract

The Waste2H2 project, committed to advancing gender equality in STEM, presents its Gender Illustration Final Report. Celebrating achievements in Short-Term Scientific Staff Exchanges and Career Development Training, the project exemplifies a dedication to gender balance. While acknowledging challenges, notably in Summer Schools, the report underscores the commitment to inclusivity. Waste2H2 stands out as a catalyst for change, emphasizing continuous monitoring, strategic learning, and stakeholder engagement. This deliverable also includes strategic recommendations, positioning Waste2H2 as a beacon for gender equality in STEM, transcending boundaries, and creating a diverse, inclusive, and talent-rich scientific community.


## Document History

| Date | Version | Author(s) | Changes made |
|---|---|---|---|
| 17/11/2023 | 1 | Catarina Nobre | 1st document draft |
| 20/12/2023 | 2 | Luiz Rodrigues, Pedro Romano, Luís Loures | Revisions |
| 21/12/2023 | 3 | Catarina Dias, Catarina Nobre | Contributions in graphical design |
| 24/11/2023 | 4 | Paulo Brito | Final version of the document |

## Legal Disclaimer

WASTE2H2 has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 952593. 

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## 1. Contextualizing gender in STEM research

STEM (Science, Technology, Engineering, and Mathematics) research has an historical narrative of gender dynamics that has been marked by persistent challenges, specifically for female researchers. The historical journey of gender in STEM fields reveals a narrative fraught with disparities, from salaries to job positions and even different evaluation patterns. Despite being integral to the European Union's vision, gender equality and equity has been elusive in STEM research. Acknowledging this, the WASTE2H2 project recognizes that breaking these everlasting discriminating patterns is essential to promoting a more inclusive, innovative, and sustainable future for science in general, because gender equality and equity are not just fundamental values, they are the driving force to unleashing scientific research's full potential.

The European Parliament's resolution of June 10, 2021, underscores the imperative of gender equality in STEM, emphasizing that it is crucial for empowering women, fostering societal development, and achieving a sustainable and inclusive society. This Gender Illustration report aligns seamlessly with this vision. The European Union (EU) faces a significant shortage of women in STEM careers, despite women constituting 52% of the European population and 57.7% of tertiary graduates in the EU. Shockingly, only 2 out of 5 scientists and engineers are women. In the digital sector, women are underrepresented at all levels, from students (32% at bachelor's, master's, or equivalent level) to top academic positions (15%). This gender gap persists even in sectors where women are the majority, such as education [1].

As we navigate the complexities of STEM research, it is imperative to view these disciplines through a gender-inclusive lens. This report strives to reshape the narrative, giving the example of project Waste2H2 and setting several guidelines to foster an environment where diversity is celebrated, and the contributions of women to STEM are not just acknowledged but amplified. In the subsequent sections, this document outlines strategic and specific objectives of this initiative, illustrating how it aligns with broader societal goals and the vision of the EU for a more equitable future.

## 2. Purpose and scope of gender illustration within Waste2H2

Waste2H2 delineates a purposeful and comprehensive scope for this Gender Illustration report, based on lessons learned throughout the project. The overarching purpose of this deliverable is to systematically dismantle barriers, biases, and stereotypes prevalent in the waste thermal gasification sector. Some of those barriers are described in Figure 1.

[1] *Promoting gender equality in science, technology, engineering, and mathematics (STEM) education and careers. European Parliament resolution of 10 June 2021 on promoting gender equality in science, technology, engineering, and mathematics (STEM) education and careers (2019/2164(INI)).*

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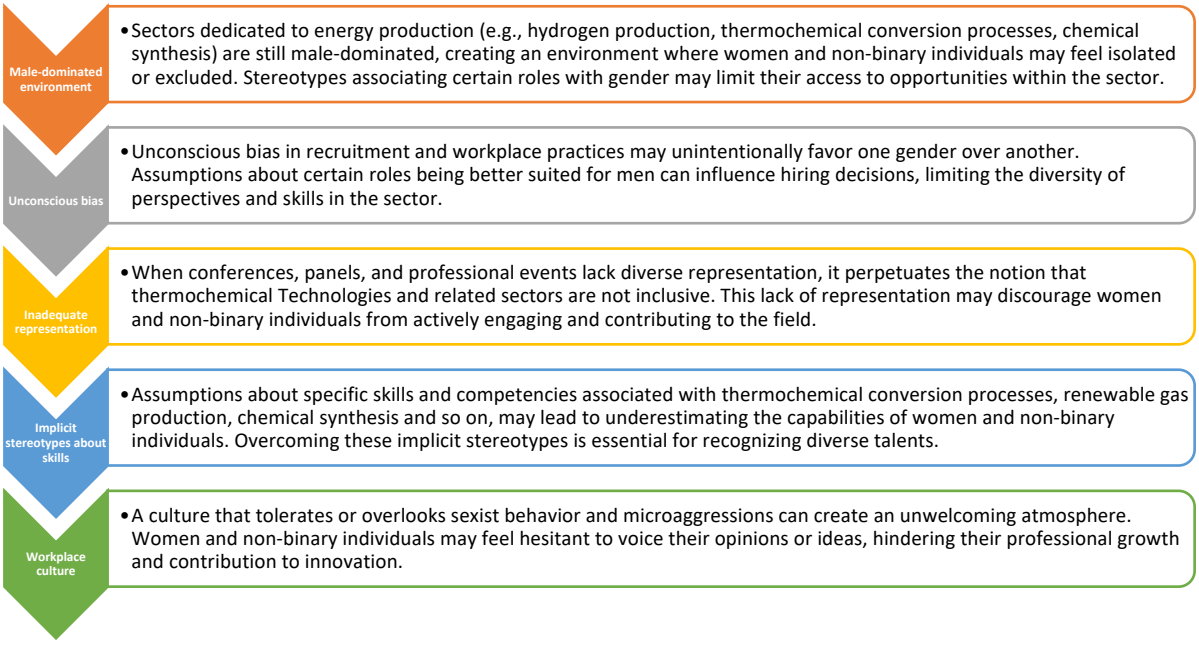


Figure 1. Barriers, biases, and stereotypes prevalent in most of energy related sectors.

By explicitly addressing gender balance and inclusivity, Waste2H2 recognizes that achieving gender balance was not easy throughout the project, as can be seen in Figure 2.

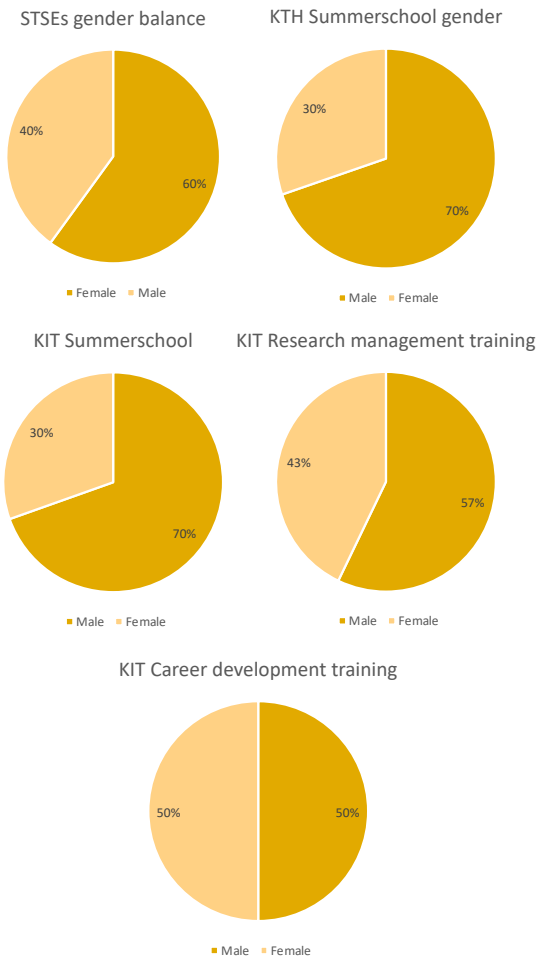


Figure 2. Gender balances results for different activities within WASTE2H2.

1) Short Term Scientific Staff Exchanges:
**Female: 60%**
**Male: 40%**
The project has demonstrated a commendable effort in achieving a 60% female participation in short-term scientific staff exchanges. This signifies a conscious commitment to gender balance, acknowledging the importance of diverse perspectives in collaborative research.

2)Summer School at KTH:
**Female: 30%**
**Male: 70%**
While there is a noticeable gender imbalance favoring male participation in the Summer School at KTH, the awareness of this discrepancy is a crucial step. Future iterations could explore strategies to increase female involvement, ensuring a more equitable representation.

3) Summer School at KIT:
**Female: 30%**
**Male: 70%**
Like the Summer School at KTH, there is an opportunity to enhance female participation in the Summer School at KIT. Addressing this imbalance may involve targeted outreach efforts or specific support mechanisms for female participants.

4) KIT Research Management Training:
**Female: 43%**
**Male: 57%**
The gender balance in the Research Management Training at KIT is relatively closer, with 43% female participation. This indicates a positive trend, but ongoing efforts can further close the gap and strive for a more balanced representation.

5) KIT Career Development Training:
**Female: 50%**
**Male: 50%**
Achieving a 50-50 gender balance in Career Development Training at KIT is a significant accomplishment. This exemplifies the project's commitment to providing equal opportunities for professional growth, showcasing a balanced representation.

## 3. Enhancing gender balance: Strategies and reflections for a more inclusive Waste2H2 project

To enhance gender balance within the Waste2H2 project and align more closely with the EU's commitment to gender equality, there are several areas where improvement and proactive measures could be implemented. These measures are detailed in Figure 3. By systematically addressing these areas, Waste2H2 can improve its gender balance and contribute to creating an inclusive and supportive environment that aligns with the principles of gender equality outlined by the EU.

**Recruitment and Selection:**

- Implement strategies to actively encourage and recruit more female researchers, ensuring that recruitment processes are inclusive and promote equal opportunities.
- Establish clear guidelines to encourage a diverse pool of candidates during recruitment, fostering an environment that values varied perspectives.

**Visibility of Female Role Models:**

- Increase the visibility of female role models in STEM fields within the project. This can be achieved by inviting more female experts to participate in workshops, conferences, and training events.
- Highlight achievements and contributions of female researchers in project communications and dissemination materials.

**Networking Opportunities:**

- Facilitate networking opportunities specifically designed to connect female researchers within the project. This can include mentorship programs, peer support initiatives, and forums for knowledge exchange.

**Training and Capacity Building:**

- Enhance training programs to specifically address gender-related challenges in STEM fields. This may include sessions on overcoming gender biases, fostering inclusive work environments, and building confidence among female researchers.

**Flexible Working Arrangements:**

- Implement flexible working arrangements to accommodate the diverse needs of researchers, particularly women who may face challenges balancing professional and family responsibilities.
- Consider family-friendly policies that support researchers, such as parental leave and childcare support.

**Continuous Monitoring and Evaluation:**

- Regularly monitor and evaluate the gender balance within the project, including participation in activities and leadership roles.
- Establish mechanisms for feedback and suggestions from female researchers to continuously improve the working environment.

**Promotion of Gender Equality Policies:**

- Promote and disseminate gender equality policies within the project to ensure that all participants are aware of the commitment to non-discrimination and equal opportunities.
- Encourage partner institutions that may not have existing gender equality policies to adopt and implement them.

**Data Collection and Reporting:**

- Collect gender-disaggregated data throughout the project to assess the impact of activities on gender balance.
- Include gender balance indicators in progress reports, ensuring transparency and accountability.

**Promotion of Female Participation in Decision-Making:**

- Actively encourage and support female researchers to take on leadership roles within the project, including involvement in decision-making processes.
- Create platforms for female researchers to express their views and contribute to shaping project activities.

**Inclusive Communication:**

- Ensure that all project communication materials, including the project website, posters, and publications, feature a balanced representation of female and male researchers.
- Avoid reinforcing gender stereotypes in project-related content.

Figure 3. Measures to enhance gender balance, taken from the lessons learned in WASTE2H2.

## 4. Main conclusions

The Waste2H2 project has been at the forefront of promoting gender equality within the STEM field, aligning with the EU's commitment to fostering inclusivity and diversity. The deliverable "Gender Illustration Final Report" reflects a comprehensive journey, outlining the project's initiatives, challenges, and achievements in promoting gender balance.

Waste2H2 has made commendable strides in enhancing gender diversity, particularly in Short-Term Scientific Staff Exchanges and Career Development Training at KIT, where a balanced representation has been achieved. These successes underscore the project's dedication to providing equitable opportunities for professional growth.

While acknowledging these achievements, the report transparently addresses challenges, notably in the gender balance of Summer Schools at KTH and KIT. This reflective approach demonstrates a commitment to continuous improvement, with a keen awareness of areas that require focused attention. The commitment to equal gender representation in all project activities is evident, and the report serves as a catalyst for ongoing strategies to address imbalances effectively.

The Waste2H2 consortium has embraced the broader vision of inclusivity in STEM research. The project's dedication to creating an environment where gender diversity is the norm is evident in its policies, training programs, and strategic planning. The emphasis on gender equality goes beyond a mere checkbox exercise, it reflects a deep-seated commitment to fostering an inclusive culture within the scientific community. The Waste2H2 project concludes with a set of strategic recommendations that include celebrating successes, addressing specific imbalances, maintaining continuous monitoring, engaging stakeholders, and embracing challenges as learning opportunities. These recommendations serve as a roadmap for future endeavors, as an attempt that gender equality and equity in STEM finally comes to fruition.