

# **Females for Future: An Interactive Side Event on the Challenges of Women in the Cooling Sector and on Recommendations for Action**

10.07.2025



**giz** Deutsche Gesellschaft  
für Internationale  
Zusammenarbeit (GIZ) GmbH

# Agenda

Opening remarks

Sebastian Schnatz, German Federal Ministry for the Environment, Climate Action, Nature Conservation, and Nuclear Safety (BMUKN)

Facts and Figures about the general situation of women in the cooling sector

Souhir Al-Hammami, International Institute of Refrigeration (IIR)

Women's voices

Video

Finding ways to tackle barriers.

Group Work – all participants

Presentation of results + additional recommendations of GCI report

Group representatives

Kerstin Kreß, GIZ Proklima

Wrap up and Closing

Guntram Glasbrenner, GIZ Proklima





# Opening Remarks

**Sebastian Schnatz**

German Federal Ministry for the Environment, Climate Action,  
Nature Conservation, and Nuclear Safety (BMUKN)



# Facts and Figures about the general situation of women in the cooling sector

**Souhir Al-Hammami**  
International Institute of Refrigeration (IIR)

# OEWG-47 Side Event: Females for Future

## **Women in North America in the Refrigeration, Air Conditioning, and Heat Pump Industry**

**Souhir Al-Hammami (Director of Scientific and Technical Information  
on behalf of Ina Colombo-Youla (INWIC President 2025 and Head of  
EUIP Department)**

# Learning Objectives

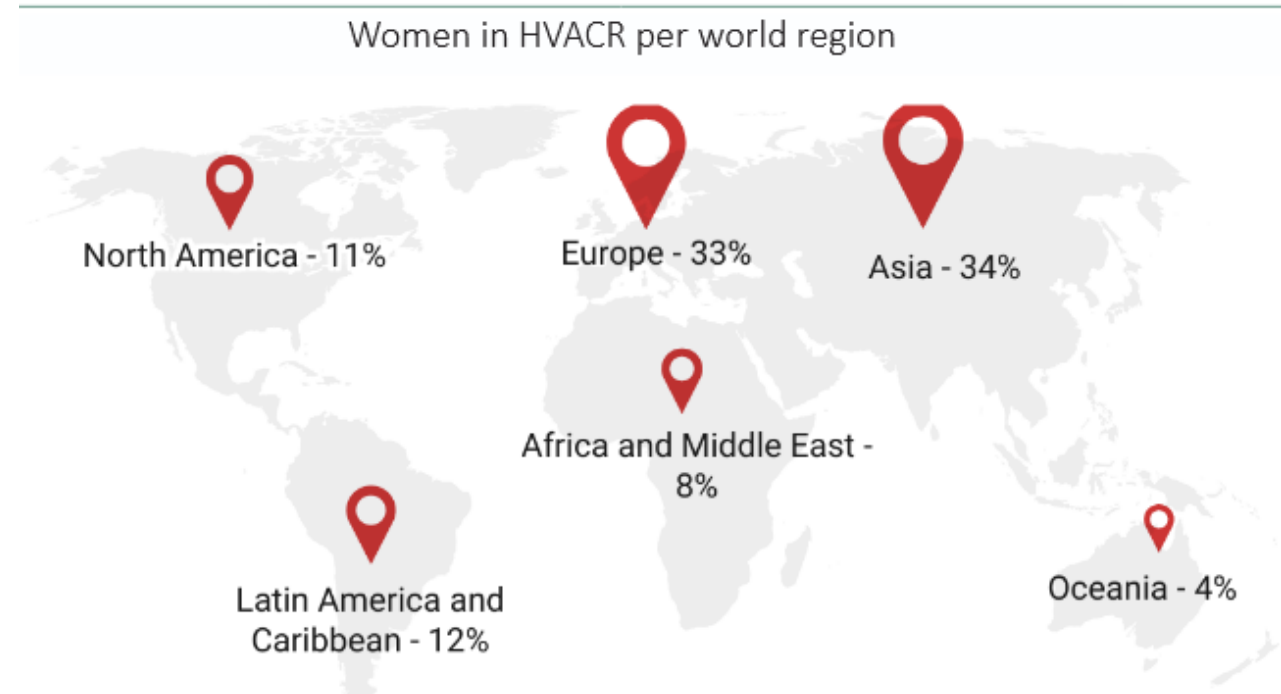
- Explain the Educational Pathways to Careers in the RACHP Industry.
- Understand Women and Minorities Difficulties in the Workplace.

# Significance of the RACHP Industry

- 15 million people globally employed in RACHP as of 2019.
- In 2019, 15 Million people employed [IIR, 2019]
- Global market worth 206 billion in 2023
- North American market valued at USD 33.26 billion, over 15% of the global market.

# Women in RACHP a worldwide survey

- Survey undertaken in 2022 by IIR, UN and several national RACHP associations
- In total 810 women responded to this survey.
- Updated with 2 regional surveys: conducted in North and Latin America



# Women in the RACHP Industry

Women represent only 1.8% in Canada and 2.3% in the USA of RACHP technicians.

Table 1. Percentage of women employed in an RACHP occupation for USA and Canada

Occupation	% of women employed USA (Bureau of Labor Statistics, 2022a)	% of women employed Canada (Statistics Canada, 2022)
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	2.3%	1.8%
Industrial and manufacturing engineers	25.0%	22.6%
Mechanical Engineers	8.5%	10.8%
Construction Managers	8.5%	15.6%
Plumbers, pipe fitters and gas fitters	1.1%	1.9%
Drivers/Sales workers and truck drivers	8.1%	9.8%
Engineering Managers	13.3%	18.4%
First Line supervisors of mechanics, installers and repairers	5.3%	7.2%

Represented above are several careers in RACHP, varying in required education, whether or not the role is managerial, and universally women are underrepresented.

This underrepresentation spans across both technical and managerial roles despite above-average salaries and job growth.

# Measures of Gender Equality in the Workplace

- Gender Equality Index (GEI) a metric to measure gender equality in companies or countries.
- In Europe: Mandatory GEI reporting since 2013. i.e in France mandatory for companies over 50 employees.
- Global indices are existing: North America lacks mandatory reporting on GEI, leading to incomplete data and less transparency.
- Gender disparity in leadership roles: 7% women CEOs (USA) and Canada only 6 CEO nationwide
- In Canada and USA no RACHP companies in the top rankings.

# Educational Paths in the RACHP Industry

Two main pathways: Technical route via apprenticeships and Academic route via universities.

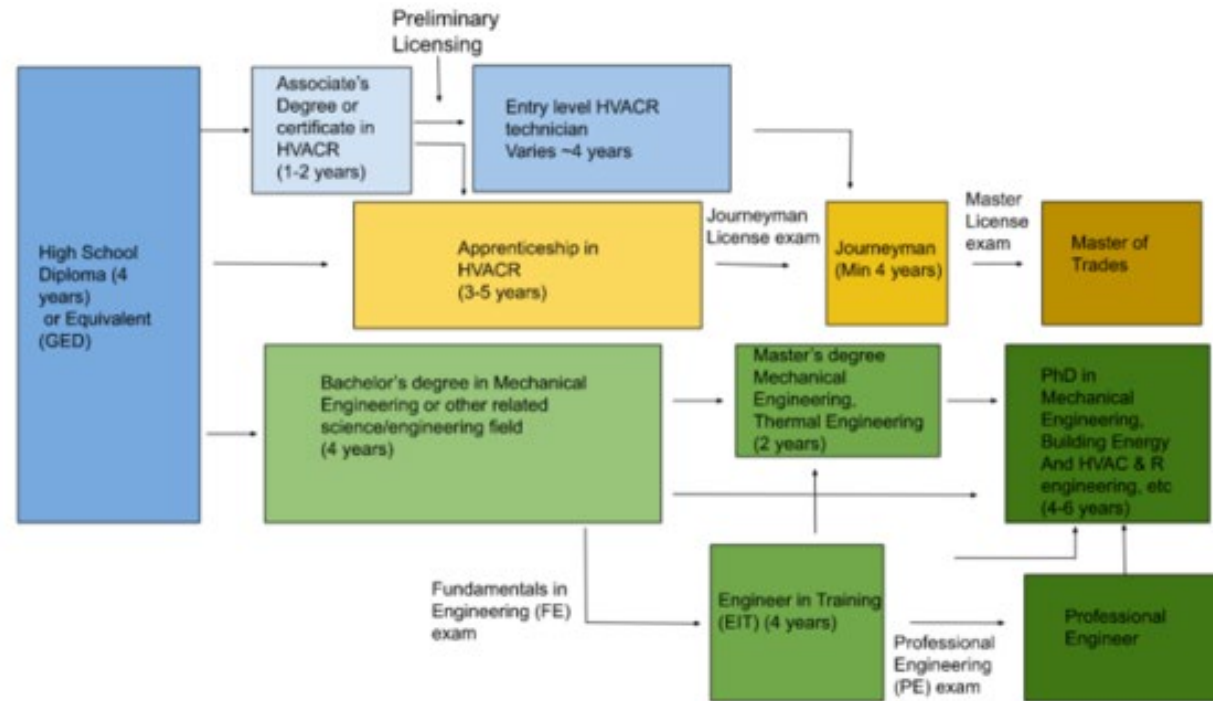


Figure 1 A visualisation of the educational road map to careers in RACHP in the USA.

No easy transition between technical and academic routes, hindering career flexibility.

# Survey Among Women in the RACHP Industry

Survey conducted with 400 responses from women in the sector.

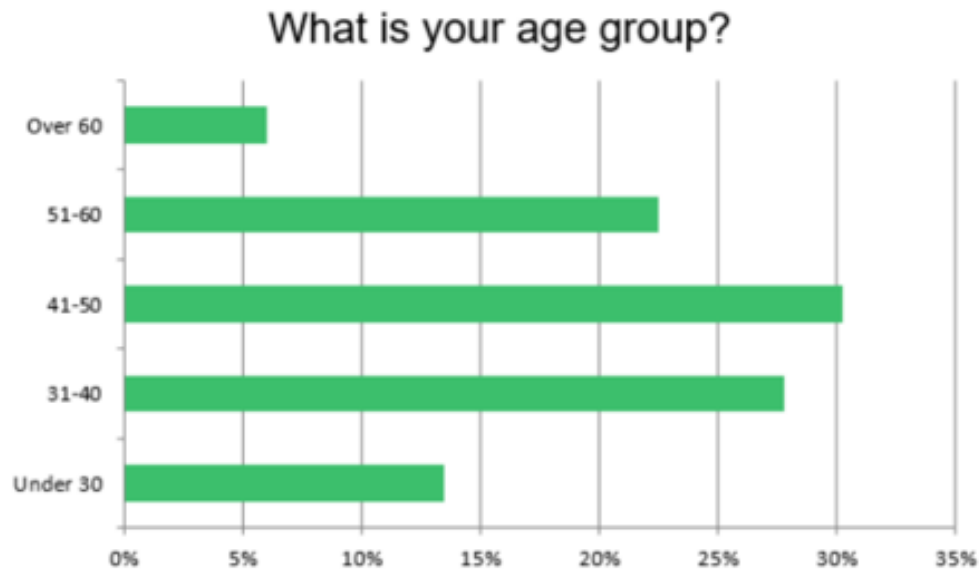


Figure 2 Percentage of Women in the HVACR sector by age group.



Figure 3 Percentage of Women in the HVACR sector by years worked in the sector.

Majority have been in the industry for over 15 years, indicating high retention but low influx of new talent.

# Current Job Roles of Women in RACHP

The majority of women in RACHP occupy roles in sales and marketing (28%), with senior management (22.5%) and business ownership (14.5%) also being prominent.

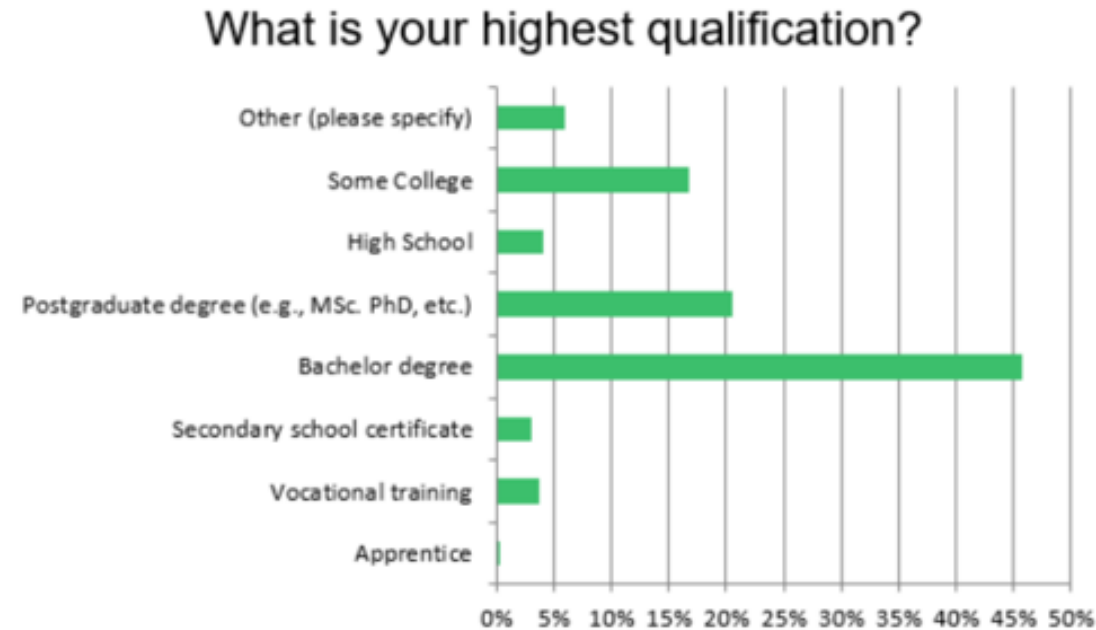


Figure 4 Percentage of respondents for a given occupation.

Technical positions are markedly less common, reflecting the broader trend of underrepresentation in hands-on roles.

# Education Level of Women in RACHP

Educational levels among women in RACHP are high, with nearly half holding a bachelor's degree and over 20% possessing postgraduate qualifications.



**Figure 5** Percentage of women surveyed by education level attained.

This contrasts with lower representation in technical training and apprenticeships, indicating potential barriers at the entry-level technical education.

# Motivations and Challenges of Women in RACHP

Top motivations: Job security and contributing to society.

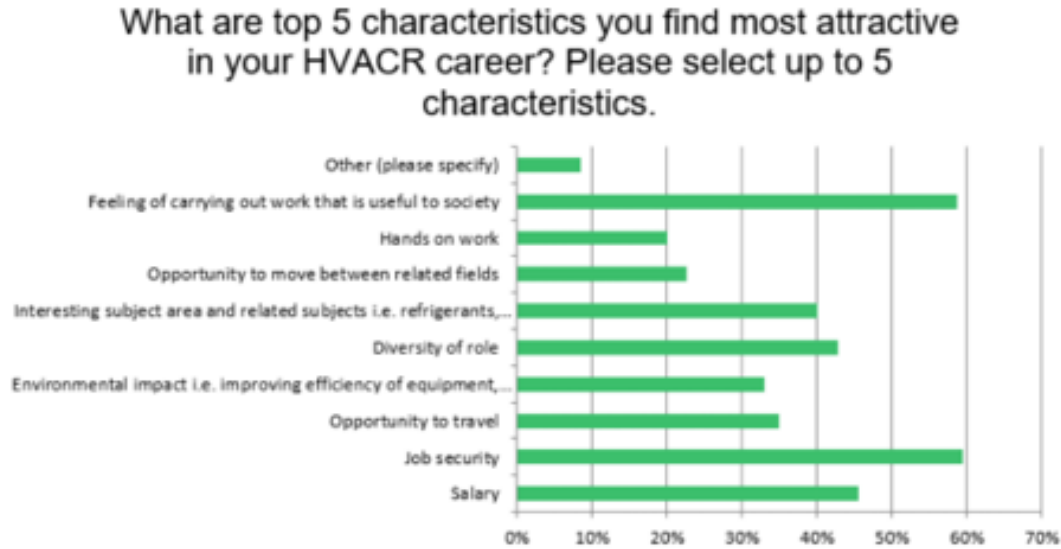


Figure 7 Percentage of women by characteristics that are attractive to a career in HVACR.

Do you face any of the following challenges in your workday? Please choose up to 5 challenges that you experience the most.

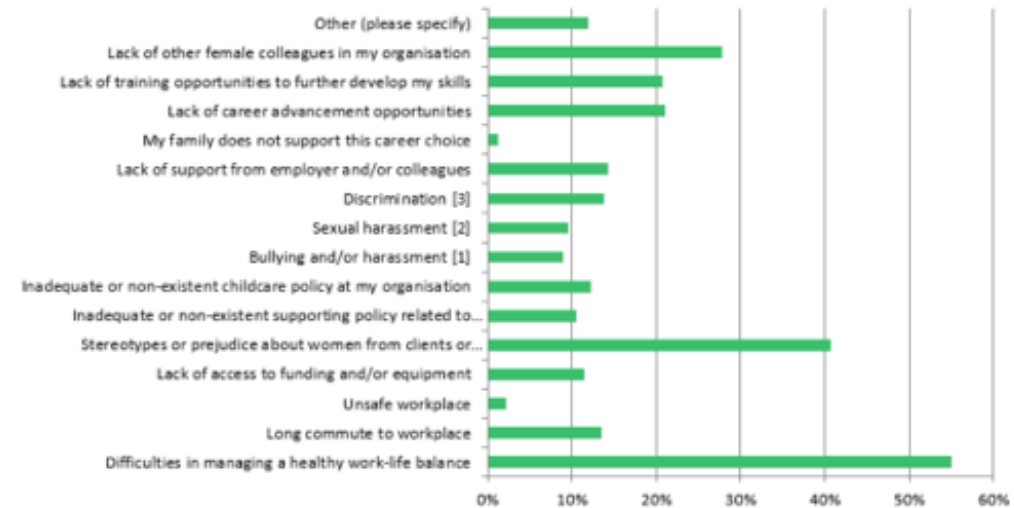


Figure 6 Percentage of women surveyed that experience a given issue.

Significant challenges: Work-life balance and stereotypes from clients.

# The Environmental Aspect of RACHP Work

81% of women in the RACHP sector regard the environmental impact of their work as important, reflecting a strong commitment to sustainability.

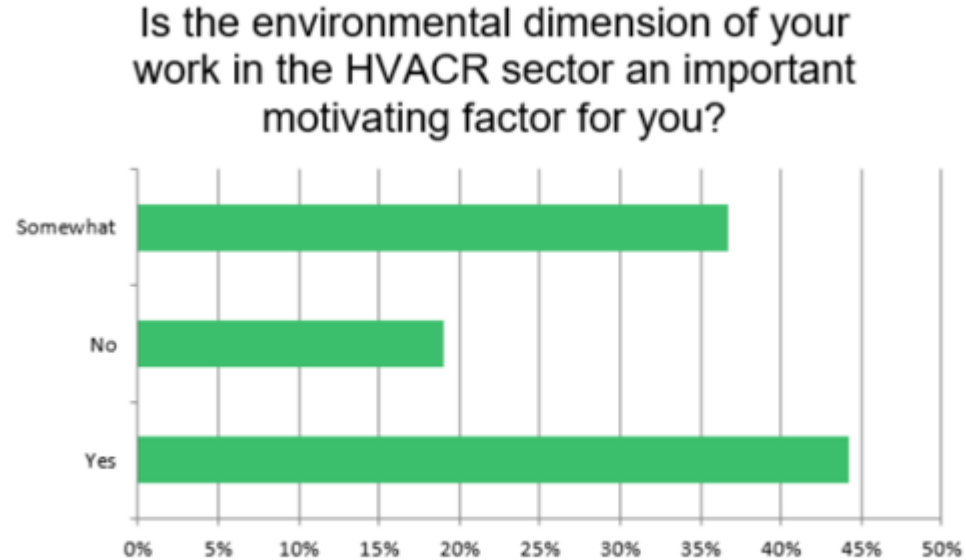


Figure 8 Percentage of women by whether or not the environmental aspect of the HVACR sector was important.

This concern underscores the potential for attracting more women to the industry by emphasizing the environmental benefits and contributions of RACHP careers.

# IIR Women in Cooling Database

- Database is accessible from the IIR CaRe webpage
- Gather 1306 responses



## Women in Cooling database

This database showcase inspirational career experiences from 1306 women across the globe but also highlighted some of the challenges. To better understand the background, motivation, challenges, and opportunities faced by women working in RACHP, in 2022, a worldwide survey was undertaken by the International Institute of Refrigeration (IIR) and OzonAction of UN Environment Programme (UNEP) in cooperation with several partners. Read the Women in Cooling booklet <https://iifir.org/en/fridoc/women-in-cooling-a-worldwide-survey-146020>

The survey has been updated with more respondents from North and Latin America, in collaboration with Women in HVACR, ASHRAE, and FAIAR, who are INWIC's founding partners. The IIR Women in HVACR database summarised all survey responses."

Please choose a language:

English

Français

## Base de données des Femmes dans le Froid

Cette base de données présente les expériences professionnelles inspirantes de 1306 femmes à travers le monde, mais met également en évidence certains défis. Pour mieux comprendre les antécédents, les motivations, les défis et les opportunités des femmes travaillant dans le secteur du CVC, une enquête mondiale a été entreprise en 2022 par l'Institut international du froid (IIF) et OzonAction du Programme des Nations unies pour l'environnement (PNUE), en coopération avec plusieurs partenaires.

Lire la brochure « Women in Cooling » (Les femmes dans le froid) <https://iifir.org/en/fridoc/women-in-cooling-a-worldwide-survey-146020>

L'enquête a été mise à jour avec davantage de répondants d'Amérique du Nord et d'Amérique latine, en collaboration avec Women in HVACR, ASHRAE et FAIAR, qui sont les partenaires fondateurs d'INWIC. La base de données IIR Women in HVACR résume toutes les réponses à l'enquête.

# Conclusion

- Women and minorities remain underrepresented in North America's RACHP sector, despite competitive salaries and high demand.
- Women in technical HVACR roles are especially scarce due to industry perceptions, limited educational flexibility, and workplace challenges like stereotypes, work-life balance, and harassment.
- Programs like the IIR's 'Women in Refrigeration' subgroup are key to boosting visibility and representation. Highlighting the sector's environmental impact could also attract more women, as environmental STEM fields tend to have higher female participation.
- This survey has also been conducted in the Latin America region, with hopes to expand to other parts of the world.



# Questions

Souhir Al-Hammami on behalf of Ina Colombo

[i.colombo@iifiir.org](mailto:i.colombo@iifiir.org)

Colleen Keyworth

[csquires@online-access.com](mailto:csquires@online-access.com)

**Thank You**



# Video: Women's Voices

## Playlist



# **Finding ways to tackle barriers**

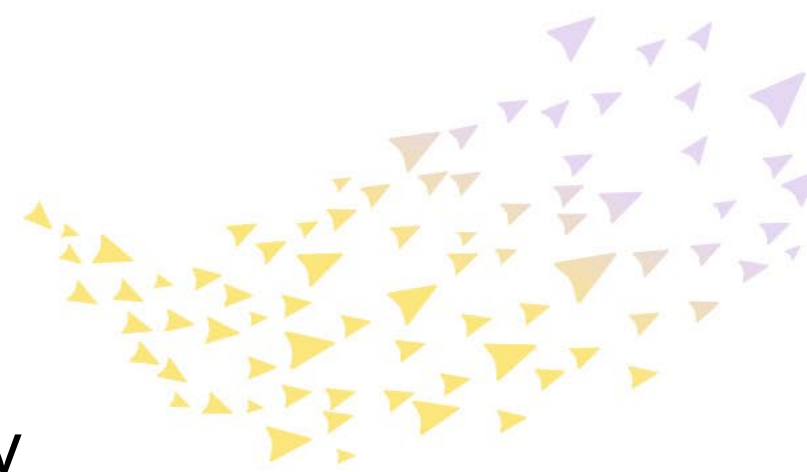
Group Work – all participants

1. Promoting Gender Equality at the Career Choice Stage

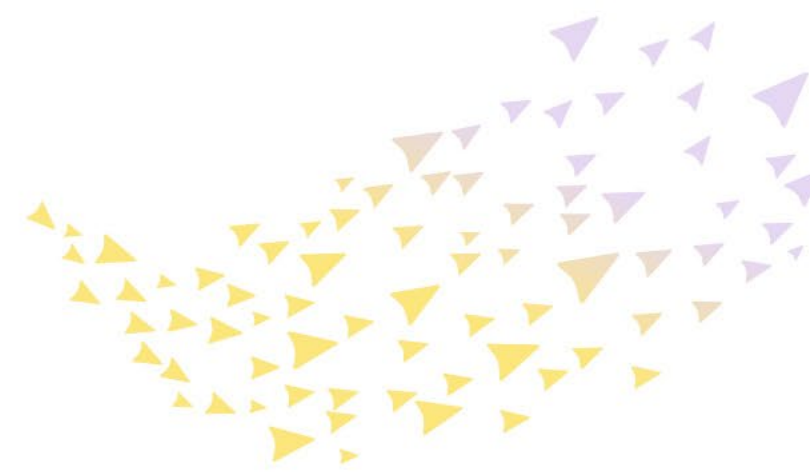
2. Promoting Gender Equality during Education

3. Promoting Gender Equality at the Career Entry

4. Promoting Gender Equality in Daily Work Routine + for Career Progression



# Guiding questions



From your experience:

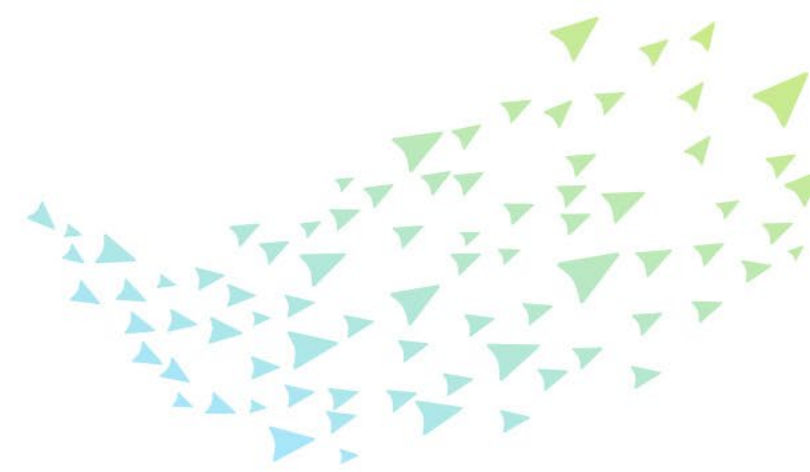
- 1<sup>st</sup> group:  
Why do so few girls decide to become technicians/engineers?
- 2<sup>nd</sup>-4<sup>th</sup> group:  
What are the most pressing challenges women face at this stage of their career? / What can we do to reduce barriers?
- All:  
Which kind of activities have you already conducted that you would recommend others?



**Presentation of results +  
additional recommendations of GCI report**

Group presentation

# Study: Recommendations for Action



**Released: June 2025**

## **Methodology:**

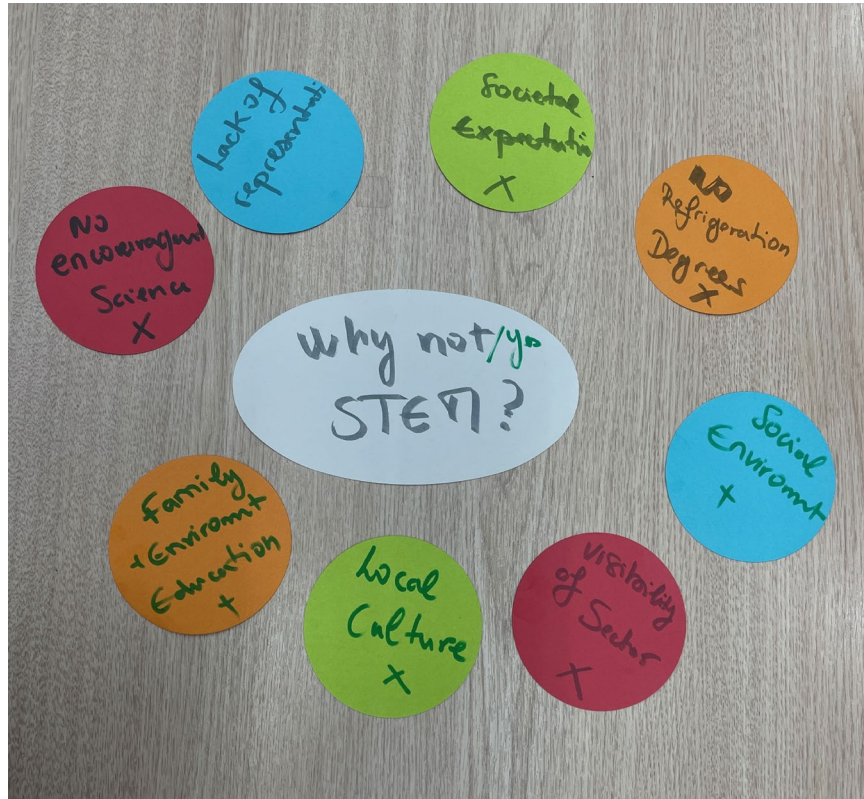
- **Desk Research**
- **Qualitative Interviews with women from Colombia, Kenya, Bangladesh**

## **Download:**

**[Females for Future: Women in the Cooling Sector - Green Cooling Initiative](#)**

# Promoting Careers in Technology in School

- Collaborate with educational authorities
- Highlight benefits of the RAC sector: job security, income prospects, positive environmental impact
- Challenge stereotypes



# Promoting Gender Equality during Vocational Training and Education

- Eliminate financial barriers, e.g.
  - Scholarships
  - Decentralised training centres
- Have proper facilities that are Female considerate e.g. Female Toilets/Washrooms etc. + tools and safety equipment in different sizes
- Establishing Female Only technical institutions.
- Institutions to have policies that promote classroom/school leadership roles to be gender equal. E.g. 60% or 40% ratio.
- Awareness and behavioural change
  - promoting the industry utilizing females already in the field (mentorship etc.)
  - including in the RAC curriculum consideration for being gender conscious. Train instructors and instructors to teach it in class. (address stereotypical thinking, gender-based discrimination and sexism)
- Integrate sustainability and environmental awareness as a relevant part of training programmes
- Collaborate with local partners and women's networks



# Promoting Gender Equality at the Career Entry

- Eliminate unconscious bias and prejudices
- Make female role models visible (public advertising)
- Address the RAC labour market shortage and the sector's benefits
- Recruitment by women
- Quota system (policy level)



# Promoting Gender Equality in Daily Work Routine

- Enable a good work-life balance
- State sub entioned maternity leave + possibility for paternaty leave for men so they can take over more care work
- Ensure a gender-sensitive workplace
- Make sexism visible and establish countermeasures
- Promote mentoring and networking opportunities
- Engage and support men as allies
- Raise awareness on coping strategies
- Promote dialogue and exchange
- Provide resources, materials, and guidelines



# Promoting Gender Equality for Career Progression

- Support women in reaching decision-making positions
- Support women in management positions, e.g. finance trainings and networking opportunities
- Mentoring programmes
- Support women-led businesses



# Gender Mainstreaming

- Promote gender-disaggregated research and data collection
- Integrate gender perspectives in project design and implementation





# Wrap up

# Contact

**Guntram Glasbrenner**  
Programme manager

[Guntram.glasbrenner@giz.de](mailto:Guntram.glasbrenner@giz.de)

**Kerstin Kreß**  
Communication specialist and  
gender focal point  
[Kerstin.kress@giz.de](mailto:Kerstin.kress@giz.de)

 [www.giz.de](http://www.giz.de) / [www.green-cooling-initiative.org](http://www.green-cooling-initiative.org)

**in**



# Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

Registered offices, Bonn and Eschborn

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Friedrich-Ebert-Allee 32 + 36  
53113 Bonn, Germany  
T +49 228 44 60 - 0  
F +49 228 44 60 - 17 66

Dag-Hammarskjöld-Weg 1 - 5  
65760 Eschborn, Germany  
T +49 61 96 79 - 0  
F +49 61 96 79 - 11 15

E [info@giz.de](mailto:info@giz.de)

I [www.giz.de](http://www.giz.de) / [www.green-cooling-initiative.org](http://www.green-cooling-initiative.org)

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