

STRUCTURAL CHANGE

GENDER IN RESEARCH

GENDER AND CITIES

GENDER AND TRANSPORT

GENDER AND CLIMATE

INNOVATION IN INDUSTRY

Social aspects of gender in climate change (and other environmental) research

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**Gender Mainstreaming in STEM and Global
Change Sciences**
Czech Academy of Sciences, Brno
14/15 October 2015

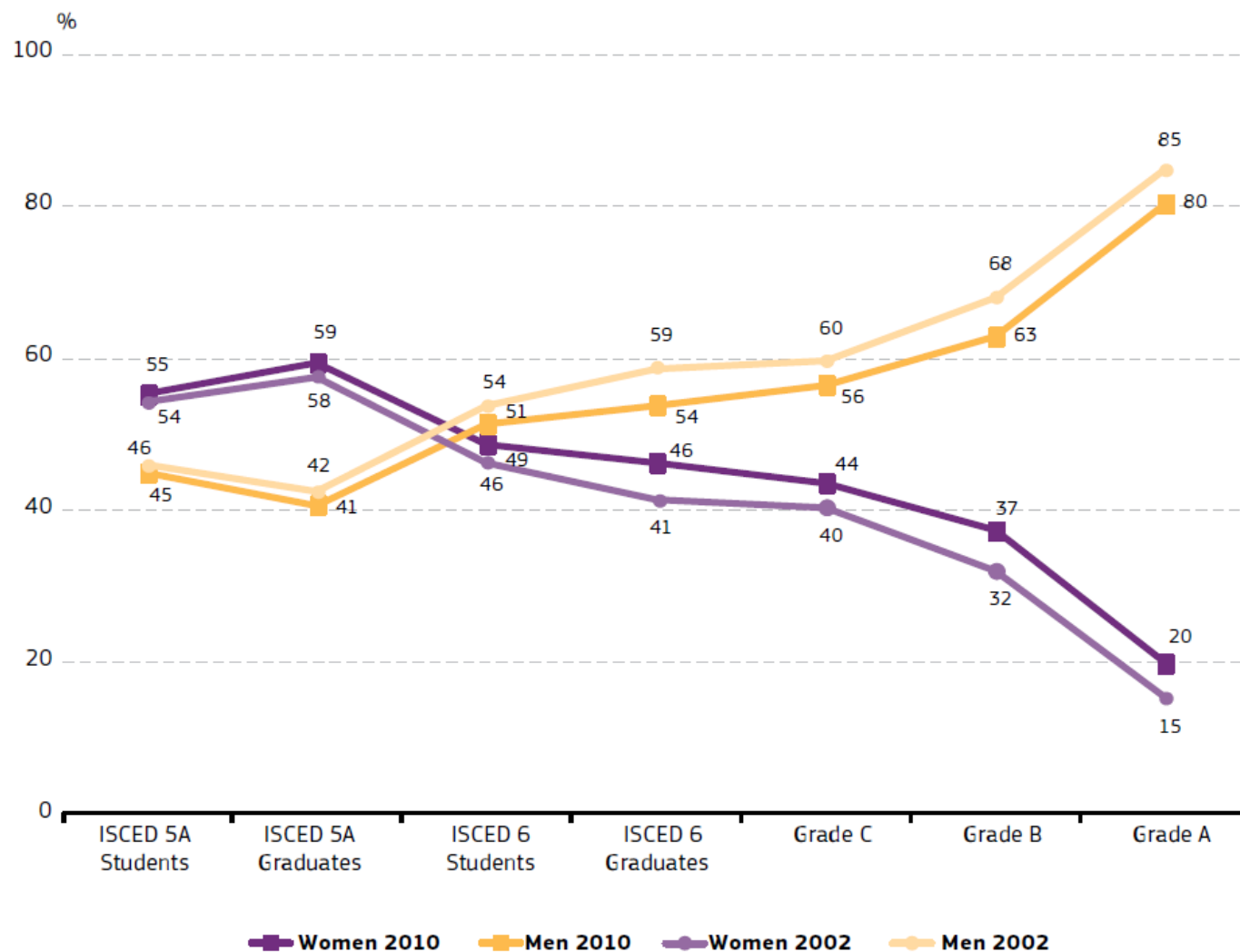


Presentation structure

- Context
- role of COST Action ‘genderSTE’
- EU/Horizon 2020 commitment & implications
- How does gender make a difference?
 - Waste
 - Water
 - Energy
- Including a gender perspective



Figure 3.1: Proportions of men and women in a typical academic career, students and academic staff, EU-27, 2002–2010



...and why is has been neglected

	Male (all)	Female (all)	Male (S&E)	Female S&E)
PhDs	51	49	62	38
PhD Grads	54	46	65	35
Grade C	56	44	67	33
Grade B	63	37	77	23
Grade A	80	20	89	11

Implications of imbalance for research

- Are the right questions being asked?
- Are research subjects gendered?
 - Some evidence that – like for like – men consume marginally more energy than women, but significantly more transport related energy (Raty *et al*, 2009)
 - Car safety tested mostly on male sized dummies, therefore ‘out-of-position’ drivers (most women, and some shorter men) more vulnerable to accidents (Schiebinger, 2014)
 - EIGE, 2011: ‘alarming’ that ‘there are no [EU] member states who have carried out a thorough gender analysis for [energy and transport] policies and measures...’
- Sub-optimal research where gender differences not considered

Implications of imbalance for climate change related professions

- **Energy; Water:** 27% employees women
- **Waste:**
 - UK: 18% of employees are women
 - 15% of all professionals
- **Transport:**
 - ~30% employees women, earning 21%pts less/men
- **Engineering:**
 - Women 9% (UK); 15% (Germany); 25% (Sweden)
- **Architecture:**
 - 22% of practicing architects women (40% of students)



EU/Horizon 2020 commitment

- Requires that *the gender dimension shall be adequately integrated in research and innovation content in strategies, programmes and projects and followed through **at all stages of the research cycle***
- Work Programme 2014/15:
 - The gender dimension was explicitly integrated into several topics across all the sections of the WP
 - 99 out of 610 have explicitly integrated the gender dimension, 60 with a ‘major’ component, 39 with a ‘minor’
 - In ‘climate action, environment, resource efficiency and raw material’ 7 of 9 topics said to have a ‘major’ component
 - A topic is considered gender relevant when it and/or its findings affect individuals or groups of persons....

Commitment context

- UNCED, 1992 & Chapter 24
- Beijing, 1995, 4th World Conference on Women
- CoP 2001, 2011, 2012, 2014 ->
- SDGs





SDG5:

Achieve gender equality and empower all women and girls:

- 5.1 End all forms of discrimination against all women and girls everywhere
- 5.2 Eliminate all forms of violence against all women and girls
- 5.3 Eliminate all harmful practices, eg child, early and forced marriage and FGM
- 5.4 Recognize and value unpaid care and domestic work
- 5.5 Women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life
- 5.6 Universal access to sexual and reproductive health and reproductive rights
- 5.A Undertake reforms to give women equal rights to resources
- 5.B Enabling technology, in particular ICT, to promote the empowerment of women
- 5.C Policies and legislation to promote gender equality and female empowerment



SDG13:

Take urgent action to combat climate change and its impacts

- 1 Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries
 - 2 Integrate CC measures into national policies, strategies and planning
 - 3 Improve education, awareness-raising and human and institutional capacity on CC mitigation, adaptation, impact reduction and early warning
- A Implement financial commitments undertaken by developed countries
- B Raise capacity for effective CC-related planning and management in LDCs and SIDS, **including for women**, youth, local & marginalized communities.

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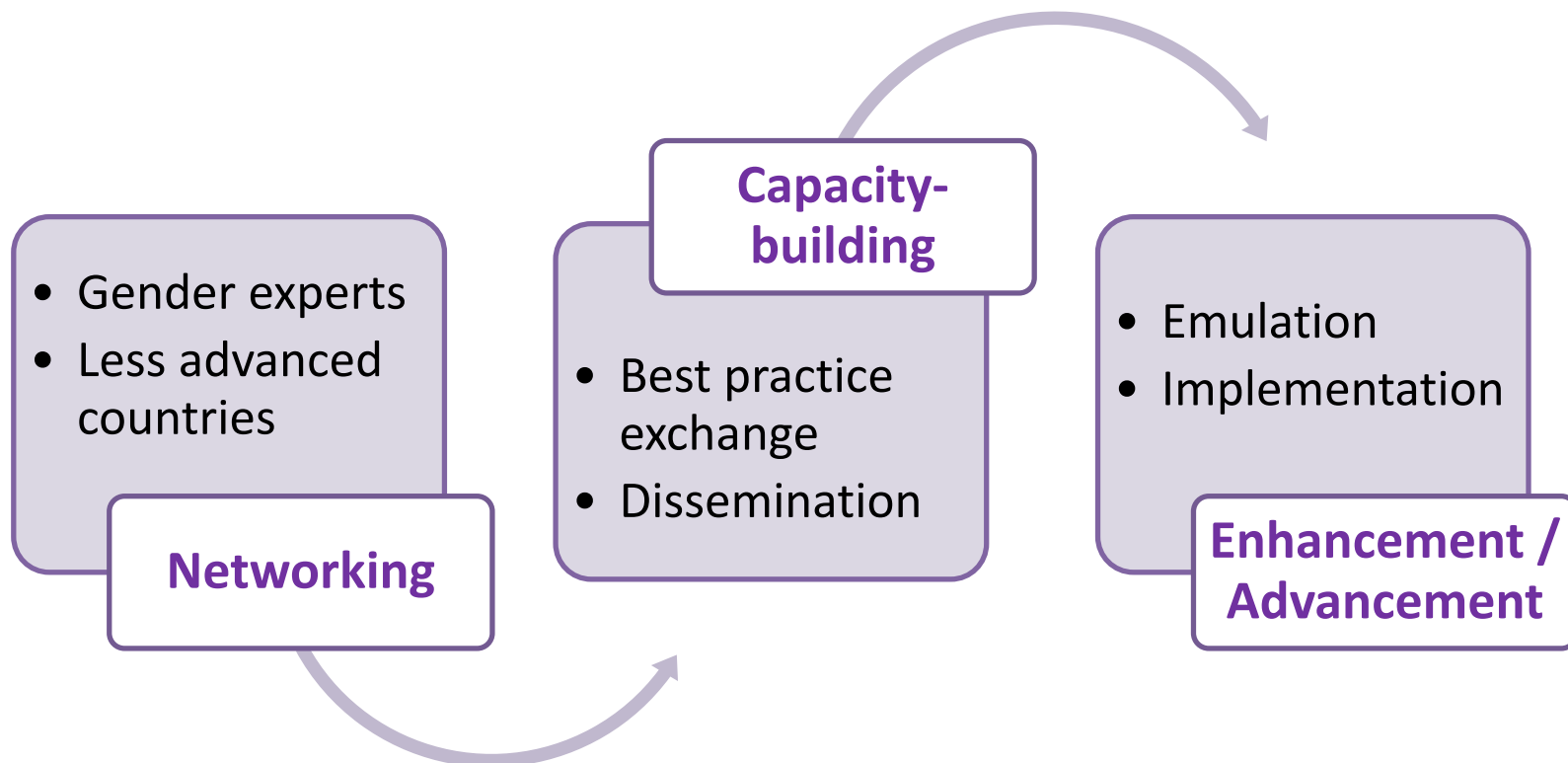
INNOVATION IN INDUSTRY

Gender, Science, Technology and Environment. A COST policy-driven network





COST and **genderSTE** objectives & method





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genderSTE is a policy-driven targeted network funded by COST (European Cooperation in Science and Technology)

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genderSTE Working Group 1

Science, Technology, Environment

Structural Change Report, EC 2011

1. Making decision-making transparent.
2. Removing unconscious bias from institutional practices.
3. Promoting excellence through diversity.
4. Improving research by integrating a gender perspective.
5. Modernising human resources management and the working environment.

Structural change in research institutions: Enhancing excellence, gender equality and efficiency in research and innovation

RESEARCH & INNOVATION POLICY

EUROPEAN COMMISSION / European Research Area Programme

EU 24005 EN



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genderSTE Working Group 2

Science, Technology, Environment

Gendered Innovations web site: <http://genderedinnovations.stanford.edu/>

Gendered Innovations

in Science, Health & Medicine, and Engineering

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Heart Disease in Women: Formulating Research Questions

ABSTRACT FULL CASE STUDY

The Challenge

Ischemic heart disease (IHD) is the number one killer of U.S. and European women (WHO, 2008). Nonetheless heart disease has been defined as primarily a male disease, and "evidence-based" clinical standards have been created based on male pathophysiology and outcomes. As a result, women are often mis- and under-diagnosed (Regitz-Zagrosek, 2011).

Method: Formulating Research Questions

Improving women's healthcare has required scientific and technical breakthroughs; it has also required new social, medical, and political judgments about women's social worth, and a new willingness to support women's health and well-being. Analyzing sex and gender in heart disease has required formulating new research questions about disease definitions, symptoms, diagnosis, prevention strategies, and treatments. Once sex and gender were factored into the equation, knowledge about heart disease increased dramatically. As is often the case, including women subjects—of diverse social and ethnic backgrounds—in research has led to a better understanding of disease in both women and men.

Gendered Innovations:

Research on heart disease offers one of the most developed examples of gendered innovations. From the expanding literature on sex and gender analysis in this area, we highlight several key developments:

1. **Redefining the pathophysiology of IHD.** Analyzing sex in clinical research has led to an understanding that heart disease in women often has a different pathophysiology than in men—particularly in younger adults.
2. **New diagnostic techniques**—some still experimental—are more effective than angiography for understanding the causes of IHD in women with chest pain in the absence of obstructive coronary artery disease (CAD).
3. **Understanding sex differences in symptoms** has led to earlier and better diagnosis of IHD in women.
4. **Rethinking the estrogen hypothesis** in light of large-scale trials of menopausal hormone therapy has challenged the (oversimplified) concept of a cardioprotective effect of estrogens.
5. **Gender analysis in risk factors and prevention** reveals that smoking has historically been far more common among men

Gendered Innovations:

- Add value to research and engineering by ensuring **excellence** and quality in outcomes and enhancing sustainability.

- Add value to society by making research more **responsive** to social needs.

- Add value to business by **developing** new ideas, patents, and technology.



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Working Group 3

Gender in environment-related areas of H2020: Mapping the state of the art and proposing future research:

- Cities
- Transport
- Energy and Climate Change
 - Establishing **expert advisors**, scope of research, and gaps;
 - Hosting **Short Term Scientific Missions**
 - **Disseminate research**
 - **Advising H2020**
 - Gender awareness in **research training**





Implications for Horizon 2020

addressing member states, institutions and other stakeholders (i)

- Are the programme design committees gender balanced? If they were, would the research programme look different?
- How does H2020 link to other European programmes, eg commitment to 40% board members of publicly listed companies by 2020? What about universities?
- Are working practices of EU research commensurate with the realities of many women's (and some men's) paid work/family responsibilities balance? (eg minimise travel; willingness to consider PT and job share appointments)
- Work-life balance for those with caring responsibilities who wish to be PIs is very difficult. How to mitigate?
- How is H2020 improving understanding of gender inequalities and gender sensitivities amongst all scientists?
- How to overcome the 'so what?' response from (mostly male) scientists/researchers regarding gender?



Implications for research: a gender checklist

- **Gender balance in research teams**
 - Between family life & paid work. Career development
- **Gender dimension in content of research**
 - As research subjects; end users. Gendered social impact
- **Gender/sex/intersectional approaches through research**
 - In objectives, methodologies, dissemination
- **Research & teaching in the research programme**
 - Gender awareness raising; representative research examples; advantages of gender aware research; synergies between different fields of research; acknowledging women's/multi-marginalised people's visions and expectations.



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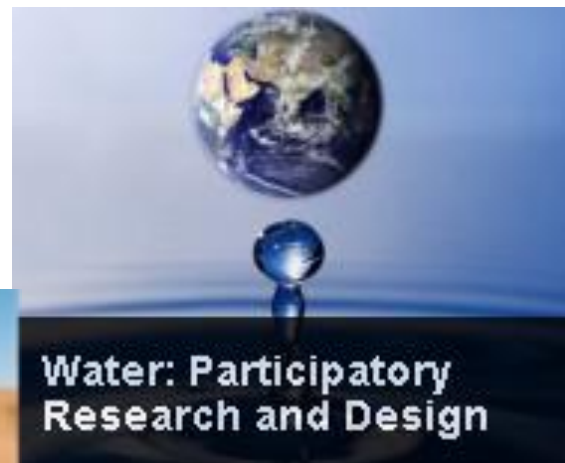
Case Study 1(i)



**Environmental
Chemicals: Designing
Health & Biomedical
Research**



Climate Change



**Water: Participatory
Research and Design**



**Urban Design:
Analyzing Gender**



**Public Transportation:
Rethinking Concepts
and Theories**



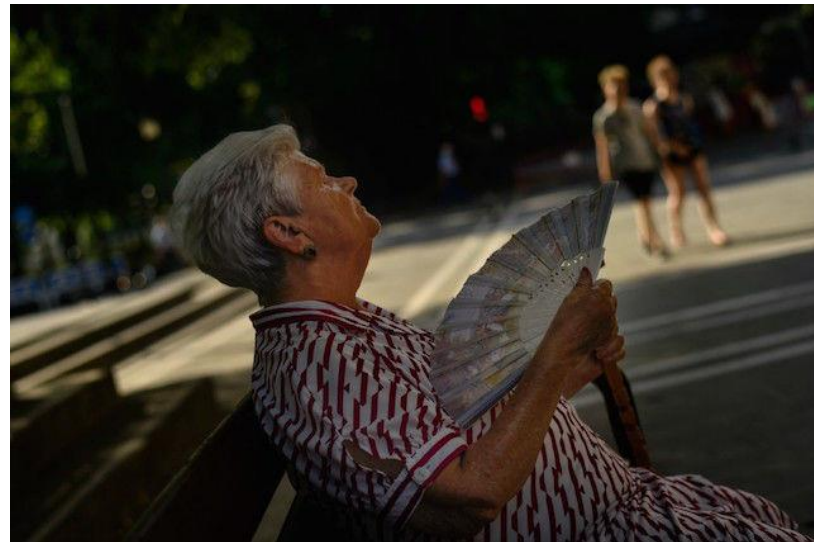
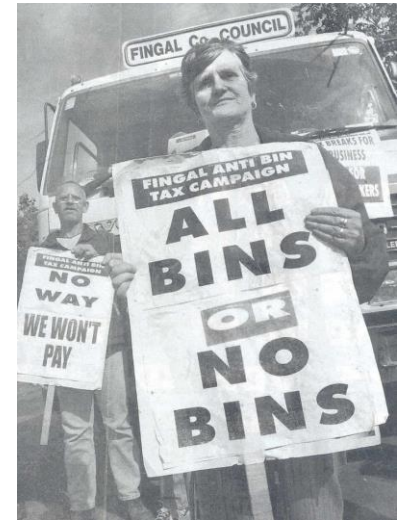
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genderSTE
Science, Technology, Environment

Waste & Heat





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Thank you
Online at: www.genderSTE.eu

The screenshot shows the homepage of the genderSTE website. The header features the genderSTE logo and navigation links: Structural change, Gender in research, Cities, Transport, Climate change, Innovation in industry, Activities, and Login. The main content area includes sections for 'What we do' (Add a story >>), 'Who we are', 'Why we do it' (Reasons for action >>), and 'what is genderSTE' (a network of policy makers and experts committed to promoting a fairer representation of women and better integration of gender dimensions in research and innovation). A sidebar on the right lists 'Why Institutional change', 'Our objectives', 'Sources and links', and 'Activities'. Below the main content is an 'Events' section with a timeline of upcoming events: 3 Apr 7:00pm 'Gac Ariely: The Problem of Self-Control', 8 Apr 6:00pm 'Office Hours: Ask Your Questions Live!', 15 Apr 6:00pm 'Office Hours: Ask Your Questions Live!', 17 Apr 7:00pm 'Adrian Draxe: Engineering Space & LEGO', and 22 Apr 6:00pm 'Office Hours: Ask Your Questions Live!'. The footer contains logos for various partners, including the European Union, COST, and several national research organizations.