



# CSW 69 Beijing +30 Shadow Report

## Women and the Environment

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The Beijing Platform for Action details the challenges to women and girls in the environmental field. Women are largely absent from policy formation and decision-making and are rarely trained as professional natural resource managers with policy-making capacities. Environmental risks in the home and workplace have a disproportionate impact on women's health, especially in urban areas. The knowledge of indigenous women on fragile ecosystems is not valued.<sup>1</sup>

The Beijing Platform for Action sets out three Strategic Objectives to advance women's human rights in the environmental field:

- K.1. Involve women actively in environmental decision-making at all levels.*
- K.2. Integrate gender concerns and perspectives in policies and programmes for sustainable development.*
- K.3. Strengthen or establish mechanisms at the national, regional, and international levels to assess the impact of development and environmental policies on women.*

To involve women actively in environmental decision-making, women must be engaged in environmental fields at all levels as workers, managers, and policy-makers. Training and leadership in STEM fields are critical steps in raising women's voices and integrating gender concerns at the environmental decision-making table.

### **Many US women study science and technology but fall behind men in engineering, physics, and computer science and the STEM workplace.**

- Many US girls begin their school studies interested in science, technology, engineering, and math, but that interest falls off over the course of their studies. As early as the middle school level, twice as many boys as girls intend to major in science or engineering jobs.<sup>2</sup>
- Nearly half of American female students who start college intending to major in science and engineering switch to non-STEM majors, compared to one-third of male students, according to the National Science Foundation.<sup>3</sup>
- Women earn very significant numbers of STEM degrees at the college level, but few are in engineering, physics, or computer science. Women exceed men in earning bachelor's degrees in psychology, biological sciences, and social sciences, but earn only 24% of bachelor's degrees in engineering and physics, and just 21% of degrees in computer science.<sup>4</sup>
- When all STEM fields are considered together, women earn more than half of all STEM bachelor's, master's, and doctoral degrees. When women enter academic teaching, however, their numbers are quickly overshadowed by male academics who comprise over 80% of full professors in STEM.<sup>5</sup>

### **Women workers are under-represented in clean-energy jobs and in other STEM fields, especially women of color, and earn significantly less than men.**

- Women comprise 46.8% of the total US workforce but they occupy a much smaller proportion of workers in clean-energy fields. Women are only 25% of workers in the energy sector and 32% of the renewable energy workforce. Apprenticeships are a pathway to engaging young workers and developing a skilled workforce, but only 12.5% of apprenticeships are held by women in the US.<sup>6</sup>
- In 2021, men outnumbered women in science and engineering occupations by 2.75 to 1. In STEM middle-skill occupations, technical jobs with less than a bachelor's degree, men outnumbered women 8.5 to 1. While 30% of US male workers held a STEM job, only 18% of female workers did.<sup>7</sup>
- Women in STEM fields earn more than women not employed in STEM but there is a significant gender wage gap when compared to male STEM workers. A US Census Bureau survey found that full-time year-round female workers comprised 26.7% of the total STEM workforce in 2019 and earned 84.1% of male earnings, better than the overall gender wage gap that year (81%) but still significantly less than men.<sup>8</sup>
- There are significant racial differences in STEM education and employment. Latina, Black, and Indigenous women and girls make up 17% of the total US population and earn 14% of bachelor's degrees in STEM fields, but comprise less than 10% of the STEM workforce.<sup>9</sup>

## Despite gains, women hold a small proportion of US environmental leadership positions.

- Women have held very significant positions in environmental leadership in the US. Two women have served as Secretary of Energy, Hazel O’Leary (1993-1997) and Jennifer Granholm (2021-2025). Four women have led the Environmental Protection Agency including  
Anne M. Gorsuch (1981-1983)  
Carol M. Browner (1993-2001)  
Christine Todd Whitman (2001-2003)  
Gina McCarthy (2013-2017)
- Several female scientists have headed prestigious national laboratories, including  
Dr. Jill Hruby, Sandia National Laboratory, Albuquerque NM (2015-2017)  
Dr. Kimberly S. Budil, Lawrence Livermore National Laboratory, California (2021-present)  
Dr. Lia Meringa, Fermi National Accelerator Laboratory, Batavia IL (2022-2025)  
Dr. JoAnne Hewett, Brookhaven National Laboratory, New York (2023-present)  
Dr. Marianne Walck, National Energy Technology Laboratory, Pittsburgh PA (2024-present)  
Kim Sawyer, Thomas Jefferson National Accelerator Facility, Newport News VA (2024-present).
- Despite the achievements of these impressive female scientists, a small proportion of total laboratory director positions are held by women. A 2019 study found that only 5% of US national lab director positions had been held by women, and none were women of color.<sup>10</sup>
- A leadership survey conducted by the Association for Women in Science found that women with STEM credentials face a variety of microaggressions that undermine their progress towards institutional leadership.
- Three-quarters of the STEM women of color faced galling incidents, with others assuming they were more junior scientists, explaining things to them in their area of expertise, and having their accomplishments and ideas credited to someone else.
- Only a third of the white female scientists and half of the women scientists of color felt that job opportunities were based on merit, and they distrusted the fairness of the evaluation process.<sup>11</sup>

## Women are more affected than men by environmental disasters in the US and are more vulnerable to domestic violence and health complications.<sup>12</sup>

- Following Hurricane Katrina, a study found a 35% increase in the prevalence of psychological intimate partner violence victimization of women, and a 98% increase in the prevalence of physical victimization of women, compared with the six months before Hurricane Katrina.<sup>13</sup>
- Rising heat levels have especially negative impacts on pregnant women. Obstetric risks due to extreme heat include pre-term birth, low birthweight, and stillbirth. In utero heat exposure increases the risk of congenital abnormalities such as heart defects, decreased cognitive abilities, and diminished adult earnings.<sup>14</sup>

## The collection of comprehensive gender data on environmental and other matters is critically important.

We cannot track education for girls, women’s employment, the gender wage gap, women’s leadership roles, the climate crisis, or violence against women without comprehensive gender data. As the Special Rapporteur on Human Rights and the Environment David Boyd noted, “The lack of gender- and sex-disaggregated data regarding many environmental issues renders women, girls and their needs invisible to policymakers.”<sup>15</sup>

<sup>1</sup> UN Fourth World Conference on Women 1995. *Beijing Platform for Action*. Paragraphs 247-250.

<sup>2</sup> Ishani Singh 2020. *By the Numbers: Women in STEM, What do the statistics reveal about ongoing gender disparities?*

<sup>3</sup> Singh 2020, *By the Numbers*.

<sup>4</sup> National Girls Collaborative Project 2023. *The State of Girls and Women in STEM*.

<sup>5</sup> Aspen Russell and Heather Metcalf 2019. *Transforming STEM Leadership Culture*. Association for Women in Science.

<sup>6</sup> Aimee Barnes et al. 2022. *Uplifting Women in the Clean Energy Economy*. Center for American Progress.

<sup>7</sup> Danielle Taylor and Caren A. Arbeit 2024. *The STEM Labor Force: Scientists, Engineers, and Skilled Technical Workers*. National Science Foundation.

<sup>8</sup> American Community Survey 2019. Table 1. *STEM and STEM-related occupations by sex and median earnings*. US Census Bureau.

<sup>9</sup> National Girls Collaborative Project 2023.

<sup>10</sup> Russell and Metcalf 2019.

<sup>11</sup> Russell and Metcalf 2019.

<sup>12</sup> Many thanks to Alexandra Vo for her assistance in assembling references on women’s vulnerability to climate change.

<sup>13</sup> Julie A. Schumacher et al. 2010. *Intimate Partner Violence and Hurricane Katrina: Predictors and associated mental health outcomes*. *Violence and Victims* 25(5):588-603.

<sup>14</sup> Linda C. Giudice et al. 2021. "Climate change, women's health, and the role of obstetricians and gynecologists in leadership." *International Journal of Gynecology and Obstetrics* 155(3):345-356.

<sup>15</sup> David R. Boyd 2023. *Women, Girls, and the Right to a Clean, Healthy, and Sustainable Environment*. Human Rights Council A/HRC/52/33, para 14.