Over the past several decades, various agencies, committees, and individual scientists have called for greater gender equity within the ranks of the science and engineering faculty at colleges and universities in the United States. Despite these calls to action, most workforce policy watchers note that progress has, at best, been slow.

According to the National Academy of Sciences (NAS), “Forty years ago, women made up only 3 percent of America’s scientific and technical workers, but by 2003 they accounted for nearly one-fifth.” Moreover, women have accounted for more than half of the bachelor’s degrees awarded in science and engineering since 2000. Nonetheless, the representation of women on university faculties of science does not reflect these trends.

Among science and engineering PhDs, four times more men than women hold full-time faculty positions. And minority women with doctorates are less likely than white women or men of any racial or ethnic groups to be in tenure positions,” according to the September 2006 NAS report Beyond Bias and Barriers: Fulfilling the Potential of Women in Academic Science and Engineering.

Some advocates for greater opportunity for women and other underrepresented groups note that although overt discrimination is now illegal, subtle, often embedded cultural barriers still persist and contribute to the lower representation of women in academic positions. The January 2005 comments of former Harvard University president Lawrence H. Summers illustrate this contention. Before a group of Harvard faculty, Summers questioned whether “intrinsic aptitudes” might not be responsible for the low number of women holding academic science posts.

Summers’s comments spurred rapid and vocal criticism, and most likely helped trigger the Beyond Bias and Barriers report. Indeed, at the Washington, DC, press conference accompanying the release of the report, Ana Mari Cauce, executive vice provost at the University of Washington and a member of the NAS study committee, noted that the panel reviewed the academic literature and found no support for a “biological effect” on aptitude, a point explored by Jolene Kay Jesse in an October 2006 BioScience article. As Jesse reported, “Sophisticated brain imaging tools and techniques have allowed researchers to view the differences in male and female thought patterns.” Although this research shows that men and women use different parts of the brain in problem solving, “brain imaging cannot determine whether this gives one sex or the other advantages or disadvantages in the pursuit of scientific or engineering excellence,” wrote Jesse. Social science research increasingly indicates that women pursue science out of an appreciation for the field, but they are more likely to leave science, both in academia and industry. The reason, reports Jesse, “is more attributable to gender discrimination and systemic bias than to innate differences.”

Whether or not Beyond Bias will put to rest questions of inherent gender differences in aptitude will have to be seen. Regardless, many women scientists remain hopeful that the report will focus attention on the need to ensure that all qualified candidates for academic positions have an equal opportunity to compete. Judith S. Weis, a member of the AIBS Human Resources Committee and a professor of biological sciences at Rutgers University, says that “the more people hear about the issues, the more likely that there will be positive outcomes. A report from an institution such as NAS carries a lot of weight.”

Donna E. Shalala, chair of the Beyond Bias study committee and president of the University of Miami, says “Women are capable of contributing more to the nation’s science and engineering research enterprise...[but] fundamental changes in the culture and opportunities at America’s research universities are urgently needed.”

Toward this end, Beyond Bias offers recommendations for the nation’s institutions of higher education, government agencies, and professional societies. Although the news media have covered the recommendations for higher education and government agencies, less attention has been paid to the recommendations for scholarly and honorary societies.

Beyond Bias challenges academic and honorary societies to review nominations and election procedures to address the underrepresentation of women in their memberships. Journals are encouraged to examine the processes by which papers submitted for publication are reviewed in order to minimize bias. Although these recommendations appear self-evident, Weis thinks it is important that the report includes the obvious. Weis recalls a particular situation: “Two years ago, some prizes were awarded and not one went to a woman scientist, but after AWIS [Association of Women in Science] made a stink, they were able to find highly qualified women the following year. They hadn’t meant to discriminate—they just never thought about the women.”

Robert E. Gropp (e-mail: rgropp@aibs.org) is director of the AIBS Public Policy Office.