- Print
- Email
- RSS
- Talkback
- BOOKMARK

Energy Features

Diversifying energy`s laborers

By Kristyn Ecochard Jul 3, 2007, 1:14 GMT

WASHINGTON, DC, United States (UPI) -- Women were visibly outnumbered by men at the American Wind Energy Association`s WindPower 2007 conference in Los Angeles in June, numbering only about 25 of the more than 200 presenters. And yet, women`s graduation rates in science and engineering have increased.

Women earned half of the bachelor`s degrees, 44 percent of the master`s and 37 percent of the doctorates awarded in science and engineering fields in 2004, according to the latest edition of Professional Women and Minorities, a Commission on Professionals in Science and Technology publication.

From 1980 to 2004 the percentage of women receiving bachelor`s degrees in science and engineering nearly doubled. But in 2003 the percentage of women employed in selected science and technology related occupations was 46.8 percent of 137,736 employees and since then, though only very slightly, the number has dropped, according to data from the Bureau of Labor Statistics and CPST.

'It`s important to have an equal number of women in math and science, especially on the technical side where there`s been little to no growth,' said Trudy Forsyth, senior project engineer and leader of distributed wind programs for the Department of Energy and the National Renewable Energy Laboratories. 'I`ve been working the whole of my life to get more women involved.

'Women think in a slightly different way and I think it helps in developing new technologies to have teams together with men,' Forsyth said.

The gains in science and engineering by minorities, including African Americans, Hispanics, and Native Americans, have been slower. Included minorities earned 16 percent of science and engineering bachelor`s degrees, 11 percent of the master`s, and nearly 6 percent of the doctorates in 2004.

According to CPST, women made up about 25 percent of the science, technology, engineering and mathematics

labor force in 2005, but that proportion varied widely by occupation and the least number of women were involved in engineering occupations.

Renewable energy may be, in ways, more appealing to women part because of the novelty and because it is more on the liberal side of the engineering work world, Forsyth said.

In 2006 the number of women in engineering was 412,000 out of 2,830,000, or about 14.6 percent, according to the Department of Labor`s Women`s Bureau. Specifically in environmental engineering, there were 10,000 women employed out of 41,000, about 24.4 percent. In science fields, including environmental sciences, there were 620,000 women out of 1,434,000, or about 43.2 percent.

'As the only woman on the American Wind Energy Association board of directors, I certainly would like to see more women,' said Karen Conover, president and chief executive officer of Global Energy Concepts, Inc. 'Part of the purpose of Women of Wind Energy is to provide women with a networking forum.'

The group provides networking forums in addition to sponsoring women who want to attend AWEA`s annual wind power conference. So far, Conover said, the group has been successful. More than 150 attended June`s WoWE luncheon. In the last two years, at least nine of the women sponsored are actively working in the industry. Ten more were sponsored at June`s conference as well.

Conover knew at a very young age her career would be in engineering.

'In the fourth grade I attended an environmental fair with my father and saw an exhibit on solar energy and even though I didn`t understand the economics, from then on out it was science projects and renewable energy and I choose engineering because I wanted to get into the renewable energy field,' she said, adding 'providing role models for women increases their sense of confidence.'

Within Conover`s company, about 50 percent of the employees are women.

'I don`t feel like I`ve encountered any obstacles but there`s a stigma; there might be one additional step to overcome those social prejudices,' Conover said.

Historically, engineering has been dominated by white men.

'For more than a decade I`ve been involved,' said Lisa Daniels, executive director of Windustry. 'Energy has been a topic dominantly worked on by men from policy makers to engineers to regulators to utilities, so it`s not uncommon to walk into a room even in this day and age and as a woman, be a minority.'

'There are fewer and fewer white men in the workforce so it has got to be diversified,' Forsyth said.

'It`s wonderful to work in wind; you`re allowed to feel closer to an equal. Under such fast market growth we need a whole variety of people with a whole variety of skill sets. Everything`s going so fast, there`s not as much room for oppression where that was definitely the case in my experience in the aerospace world.'

There are numerous initiatives to encourage women to enter science fields.

'Growing a strong network is really intuitive and it`s a really important piece expanding little by little with interns and meetings,' Daniels said. 'An upcoming mentor program will really progress the group.'

The American Society of Mechanical Engineers is studying the problem and there are a number of networking groups like Women in Solar Energy, the Women`s Renewable Energy Network, Women`s Council on Energy and the Environment and Women in Technology International.

'Women have a lot of power in terms of informal networking and making progress,' Forsyth said. 'We`ve seen incredible successes, demonstrating the obvious need for bright, technology-oriented, passionate people, regardless of who they are.

'People have to develop a strategy that specifically gives women more opportunity and minorities as well,' she said.

(e-mail: energy@upi.com)

WASHINGTON, DC, United States (UPI) -- Women were visibly outnumbered by men at the American Wind Energy Association`s WindPower 2007 conference in Los Angeles in June, numbering only about 25 of the more than 200 presenters. And yet, women`s graduation rates in science and engineering have increased.

Women earned half of the bachelor`s degrees, 44 percent of the master`s and 37 percent of the doctorates awarded in science and engineering fields in 2004, according to the latest edition of Professional Women and Minorities, a Commission on Professionals in Science and Technology publication.

From 1980 to 2004 the percentage of women receiving bachelor`s degrees in science and engineering nearly doubled. But in 2003 the percentage of women employed in selected science and technology related occupations was 46.8 percent of 137,736 employees and since then, though only very slightly, the number has dropped, according to data from the Bureau of Labor Statistics and CPST.

'It`s important to have an equal number of women in math and science, especially on the technical side where there`s been little to no growth,' said Trudy Forsyth, senior project engineer and leader of distributed wind programs for the Department of Energy and the National Renewable Energy Laboratories. 'I`ve been working the whole of my life to get more women involved.

'Women think in a slightly different way and I think it helps in developing new technologies to have teams together with men,' Forsyth said.

The gains in science and engineering by minorities, including African Americans, Hispanics, and Native Americans, have been slower. Included minorities earned 16 percent of science and engineering bachelor`s degrees, 11 percent of the master`s, and nearly 6 percent of the doctorates in 2004.

According to CPST, women made up about 25 percent of the science, technology, engineering and mathematics labor force in 2005, but that proportion varied widely by occupation and the least number of women were involved in engineering occupations.

Renewable energy may be, in ways, more appealing to women part because of the novelty and because it is more on the liberal side of the engineering work world, Forsyth said.

In 2006 the number of women in engineering was 412,000 out of 2,830,000, or about 14.6 percent, according to the Department of Labor`s Women`s Bureau. Specifically in environmental engineering, there were 10,000 women employed out of 41,000, about 24.4 percent. In science fields, including environmental sciences, there were 620,000 women out of 1,434,000, or about 43.2 percent.

'As the only woman on the American Wind Energy Association board of directors, I certainly would like to see more women,' said Karen Conover, president and chief executive officer of Global Energy Concepts, Inc. 'Part of the purpose of Women of Wind Energy is to provide women with a networking forum.'

The group provides networking forums in addition to sponsoring women who want to attend AWEA`s annual wind power conference. So far, Conover said, the group has been successful. More than 150 attended June`s WoWE luncheon. In the last two years, at least nine of the women sponsored are actively working in the industry. Ten more were sponsored at June`s conference as well.

Conover knew at a very young age her career would be in engineering.

'In the fourth grade I attended an environmental fair with my father and saw an exhibit on solar energy and even though I didn`t understand the economics, from then on out it was science projects and renewable energy and I choose engineering because I wanted to get into the renewable energy field,' she said, adding 'providing role models

for women increases their sense of confidence.'

Within Conover`s company, about 50 percent of the employees are women.

'I don`t feel like I`ve encountered any obstacles but there`s a stigma; there might be one additional step to overcome those social prejudices,' Conover said.

Historically, engineering has been dominated by white men.

'For more than a decade I`ve been involved,' said Lisa Daniels, executive director of Windustry. 'Energy has been a topic dominantly worked on by men from policy makers to engineers to regulators to utilities, so it`s not uncommon to walk into a room even in this day and age and as a woman, be a minority.'

'There are fewer and fewer white men in the workforce so it has got to be diversified,' Forsyth said.

'It`s wonderful to work in wind; you`re allowed to feel closer to an equal. Under such fast market growth we need a whole variety of people with a whole variety of skill sets. Everything`s going so fast, there`s not as much room for oppression where that was definitely the case in my experience in the aerospace world.'

There are numerous initiatives to encourage women to enter science fields.

'Growing a strong network is really intuitive and it`s a really important piece expanding little by little with interns and meetings,' Daniels said. 'An upcoming mentor program will really progress the group.'

The American Society of Mechanical Engineers is studying the problem and there are a number of networking groups like Women in Solar Energy, the Women`s Renewable Energy Network, Women`s Council on Energy and the Environment and Women in Technology International.

'Women have a lot of power in terms of informal networking and making progress,' Forsyth said. 'We`ve seen incredible successes, demonstrating the obvious need for bright, technology-oriented, passionate people, regardless of who they are.

'People have to develop a strategy that specifically gives women more opportunity and minorities as well,' she said.

(e-mail: energy@upi.com)