

AIMBE POSITION STATEMENT

AIMBE's Support of the Development of Science and Engineering Education

ISSUE

From primary to post-secondary schooling, science, technology, engineering and mathematics (STEM) education is vital for America's competitive role as the leader of future scientific and technological innovation. To ensure the strength of our economy, STEM education must respond to the changing needs of the global market place.

BACKGROUND

In 2004, American colleges produced 70,000 engineers, while India and China produced a reported 350,000 and 600,000 engineers, respectively. Put simply, America's claim as the global leader of innovation is being challenged by these, and other, developing nations globally. This large gap in the number of engineers coming out of American universities highlights the threat to the competitive edge of American innovation. American needs not only to graduate more engineers, but also to be sure the quality of education these students receive is the global gold standard.

One reason for the seeming lack of interest in American students to obtain degrees in engineering can be traced back to their K-12 science education in. Many of the K-12 science and math teachers do not have a major or a minor in the field they teach and on average scored lower on the science and math portions of the SATs than science and math majors.

The National Academies' report *Rising Above the Gathering Storm*, called for improvements in STEM education and teacher quality. As the global economy becomes increasingly knowledge-based, Americans will need to be competitive with the products of education from countries around the world. In comparison other countries in the developed world, the American education system is lagging in terms of the quality of K-12 STEM education.

Yet, as the need for qualified STEM teachers grows, the lack of competitive salaries for STEM teachers presents a barrier for talented individuals, who will be better compensated as scientists and engineers. Individual state standards for STEM teachers continue to decline in an attempt to offset the number of qualified individuals seeking professions outside of teaching.

STEM education begins early and must be supported not only through primary and secondary education, but also by providing grants for STEM undergraduate, graduate, and post-doctoral students to allow for America's innovation leadership to continue.

RECOMMENDATIONS

Congress must take action to ensure that America remains competitive in the global marketplace by bettering the quality and quantity of K-12 STEM education. AIMBE supports the following actions:

- Increased FY09 funding for STEM Education.
- Adoption of the National Standards and SPEAK Act (H.R. 325/ S. 224) that call for a rigorous standard for STEM education.

