ACS Chemistry for Life®

Messages for ACS Member Communications with Policymakers—Fall 2018

Innovation and Entrepreneurship

- America's innovation depends on 1) funding of science research and technology development; 2) developing a talented workforce that is well-educated in science, technology, engineering and math (STEM) disciplines; and 3) providing an attractive, globally competitive business climate.
- Since the 1950s, more than half of America's economic growth has been tied to scientific discovery and technological innovation. Our nation has fostered a highly creative environment that pioneers new markets. American innovation has been highly entrepreneurial, spawning start-up businesses and allowing larger companies to revitalize their product lines via acquisition of smaller firms' technology and talent.
- The U.S. chemical industry is an $812 billion enterprise that generates 17 percent of U.S. patents.
- Today only three of the top 10 chemical companies in R&D investments are U.S.-based. Domestic expansion of companies paired with encouragement of start-ups and small businesses is vital for the chemistry enterprise and therefore national fortunes.
- Research and infrastructure investments, innovation centers, and the national laboratories spur technology transfer and support commercialization.

Funding of Science and Technology

- Given the long-term nature of research, predictable and sustained federal funding is critical to the health of our technology-driven economy. Federal support for basic research has dropped as a fraction of gross domestic product by 13 percent over the last decade. This shrinkage in the overall research enterprise is undermining U.S. S&T leadership and threating our economic competitiveness.
- ACS urges policymakers to invest in long-term economic growth by setting funding levels that stabilize the fraction of U.S. GDP devoted to federally supported R&D. ACS urges policymakers to return federal funding levels to nearer the 1.2 percent of GDP invested during the 1970s and 1980s when the scientific foundation was being laid for today's technology economy.
- ACS advocates policies that stimulate small businesses and mitigate the high cost of start-ups, such as expanding the Small Business Innovation Research (SBIR) grants, Small Business Technology Transfer (STTR) grants, low interest loans, and related programs that enable direct investments in small businesses and start-ups.

Help to make the case for chemistry

- ACS members can get involved as individuals or with their peers through the ACS Legislative Action Center at ***Act4Chemistry.org***.
- Send letters today about research funding or science education.
- For more information on the issues, check out the resources at *www.acs.org/policy*.
- Get help from ACS staff by contacting Karen Garcia at k_garcia@acs.org

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Science Education

- Properly educated scientists and engineers drive the technological development that fuels America's competitive edge in the global marketplace. Robust education in science, technology, engineering, and math (STEM) must occur at all levels from elementary to graduate, via formal and informal methods to create the talented workforce we need.
- Many K-12 students have science teachers not trained in the sciences. ACS supports recruitment and retention of K-12 science teachers with relevant backgrounds, as well as opportunities for science and technology professionals to become second-career K-12 teachers or engage with the K-12 teaching community.
- Many college students enroll in STEM majors, but do not complete their studies, or graduate ill-prepared for current jobs or entrepreneurial opportunities. ACS supports efforts to recruit more students into STEM disciplines and to broaden and modernize their experiences.

Scientific Insight & Integrity

- ACS supports the use of insightful, comprehensive scientific and engineering input to the development and evaluation of policy options, and encourages scientific integrity policies that help the federal government obtain and integrate scientific assessments into policy development and implementation.

Climate Change

- In recent years, extreme weather conditions and the concomitant destruction to crops, infrastructure and human health have sharpened the tone of the climate change conversation.
- The National Academies of Science, the National Climatic Data Center, the U.S. Global Change Research Program, and the Intergovernmental Panel on Climate Change have recently published major reports with similar messages: climate change is happening, it is creating abrupt, radical change, and in the U.S. the changes are regionally different. Some areas are seeing increased drought, while others see torrential rains. Policymakers have underscored the need for information and action plans to mitigate the effects of climate change.
- Scientists will continue to play a critical role in providing government leaders and other professionals with an understanding of atmospheric chemistry, environmental chemistry, and complex systems.
- ACS supports expanding research on Earth and societal systems to better understand the causes and consequences of climate change and translating such research into policies, literacy, and education.
- ACS supports policies that send appropriate price signals to the marketplace and capture the full environmental, economic, and security costs of fossil fuel utilization. Enacting a policy that requires full cost recovery for fossil resources will increase the competitiveness of renewable and sustainable technologies while reducing greenhouse gas emissions.