

## ADDRESSING CHALLENGES AND OPPORTUNITIES THROUGH SCIENTIFIC INNOVATION

*CHEMICAL SCIENTISTS, ENGINEERS, AND ALLIED PROFESSIONALS ARE COMMITTED TO ADDRESSING NATIONAL AND GLOBAL CHALLENGES SUCH AS ECONOMIC AND EDUCATIONAL OPPORTUNITY, INCREASING DIVERSITY AND INCLUSION IN THE CHEMISTRY ENTERPRISE, ENERGY AND WATER AVAILABILITY, AND ENVIRONMENTAL SUSTAINABILITY THROUGH THE APPROPRIATE APPLICATION OF CHEMICAL SCIENCE AND ENGINEERING. THROUGH THE AMERICAN CHEMICAL SOCIETY (ACS), THE WORLD'S LARGEST SCIENTIFIC SOCIETY, CHEMICAL PRACTITIONERS FROM INDUSTRY, ACADEMIA, AND GOVERNMENT WORK TO HELP PEOPLE. ACS ALSO SEEKS OPPORTUNITIES TO WORK WITH THE FEDERAL GOVERNMENT TO SERVE THE NATION.*

### FOSTER INNOVATION THROUGH RESEARCH AND TECHNOLOGY

Investments in science and engineering have produced more than half of U.S. economic growth since WWII. Strong support for chemistry and other R&D is central to our nation's global competitiveness, productivity, defense, public health, energy security, and environmental progress. Although the engines of innovation are largely in private hands, the federal government provides a significant majority of all support for basic research. This investment fosters new knowledge, industrial innovation, and the preparation of future scientists and engineers. Government also plays a key role in fostering a healthy climate for innovation through tax policy, international standards, intellectual property, and other incentives. ACS supports efforts to

- Promote sustained federal investments in R&D, science infrastructure, and industrial innovation to enhance U.S. global competitiveness.
- Accelerate the development and commercialization of new technologies that promote national goals in energy independence, environmental sustainability, national and homeland security, human health, and associated science and technology jobs.
- Foster U.S. tax, trade, economic, and regulatory policies that improve the competitiveness of U.S. entrepreneurs and companies.
- Strengthen the ability of worldwide legal systems to cooperatively encourage innovation through intellectual property protection.

### ADVANCE SUSTAINABILITY AND THE ENVIRONMENT

Science can lead to better understanding of, and new solutions for many of society's problems including environmental and health issues. To achieve this, the best science should be available to, and used by, government officials when making decisions. To achieve confidence in government decisions that depend upon science and technology, science must be considered in an open and responsible manner. ACS supports efforts to

- Encourage decisions that protect the environment, support sustainable resource usage, and promote waste prevention in an economically viable chemistry enterprise.
- Foster the development and adoption of greener products and processes by industry, academia, and government.
- Ensure an appropriate and balanced use of voluntary and regulatory measures to achieve environmental, health, safety, and security goals
- Promote the responsible use of science in environmental management.
- Encourage appropriate global harmonization of environmental, health, and safety initiatives to standardize science and technology around the globe.

### STRENGTHEN SCIENCE EDUCATION AND THE SCIENTIFIC WORKFORCE

Science literacy and expertise are essential to the function of modern society. Scientists and engineers with a diversity of abilities, identities, experiences, and backgrounds drive an innovative economy and solve global challenges. Preparing current and future learners with scientific knowledge and skills to contribute to society and to address global health, environmental and economic challenges require investment at all levels of STEM education and workforce training. ACS supports efforts to

- Promote meaningful lifelong education of science concepts and practices to improve citizens' understanding of science and its role in society.
- Ensure equity of access to high quality education and careers in STEM fields for students of all backgrounds, particularly those from historically and presently marginalized populations.
- Provide robust state and federal support for both science education and science teacher professional development.
- Enhance the ability of all scientists and engineers to bring specific technical and non-technical talents to the U.S. workforce.
- Strengthen professional opportunities and employment-related incentives for science and engineering practitioners.

### SCIENCE IN THE PUBLIC POLICY ARENA

Science and technology provide critical tools that help us address our national and global needs. Open exchange of information and ideas is critical to societal progress. Dynamic security challenges to our infrastructure, economy, and lives require that the scientific community minimize unintended or nefarious uses of legitimate science and technology, but policymaking, and the data and information used for policymaking, should be transparent. ACS supports efforts to

- Promote a strong, non-governmental, scientific publishing enterprise that ensures access to information and exchange of scientific ideas and information among all parties with legitimate uses while appropriately protecting copyright and security-related information.
- Ensure the quality of science and technological advancement through open, rigorous, and inclusive peer review.
- Promote institutions and guidelines to ensure that governments make appropriate and open use of scientific and technological information in making policy decisions.
- Ensure the most open interactions possible among scientists, engineers, and students from across the globe.