

A COMPETITIVE U.S. BUSINESS CLIMATE: INNOVATION, CHEMISTRY, AND JOBS

Science and technology help create millions of high-skill, high-wage jobs that support a strong U.S. economy and enhance quality of life. Over the past 50 years, nearly half of all gross domestic product (GDP) growth has been a direct result of investments in research and development (R&D) and there is abundant evidence that the great majority of newly-created U.S. jobs have been the direct or indirect result of advancements in science and technology.

The world is now a much more competitive place than it was even five years ago. Only a few of the top 10 chemical companies with the highest R&D investments are U.S.-based companies. Yet the nation's chemical industry is more than a \$500 billion enterprise that touches greater than 95 percent of U.S.-manufactured products and a significant portion of U.S. patents. A strong U.S. chemical enterprise is supported by both "sustaining" innovation to keep commodity chemical production competitive and also "disruptive" innovation that introduce new materials and applications that are tailored to the needs of customers across the greater community of business entrepreneurs.

The scientific and technological innovation that underpins our economic competitiveness results from sustained investments in scientific research and in strong education and training systems. To complement this technological advancement, our nation's business laws, including intellectual property protection rights, regulatory environment, trade policies, and tax code must work together to ensure that the products of U.S. science and technology companies can enter the international marketplace competitively and without facing undue barriers. The United States should be the most welcoming place to start, maintain, or expand science- and technology-based business activity.

Although the largest employers of chemists have historically been large, publicly-owned chemical companies, small businesses and entrepreneurs are essential contributors to the chemistry economy and an increasingly important factor in the chemistry employment picture. Federal research investments in university and national laboratories continue to spur new opportunities for technology transfer and should increase to remain competitive in the world marketplace. In addition, support of university technology transfer efforts, incubators and accelerators should be encouraged to assist in translating research dollars into products and services. Many large companies are now establishing venture capital funds to support small start-ups in collaborative business and commercialization models, but significant challenges persist in the translation from scientific discovery to commercial product. By fostering collaboration between the domestic expansion of existing companies and development of small businesses that can be centers of job creation, the chemistry enterprise not only improves its own prospects, but helps raise the prosperity of the entire nation.

The American Chemical Society (ACS) Board of Directors Committee on Public Affairs and Public Relations adopted this statement on behalf of the Society at the recommendation of the Committees on Chemistry and Public Affairs, Science, and Corporation Associates. ACS is a non-profit scientific and educational organization, chartered by Congress, with nearly 157,000 chemical scientists and engineers as members. The world's largest scientific society, ACS advances the chemical enterprise, increases public awareness of chemistry, and brings its expertise to state and national matters.

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The federal government should create a policy environment conducive to business development at all levels that aid the chemistry enterprise in creating and commercializing new products and services here in the United States. However, in these efforts, it is important to maintain balance between regulation, the economic impact on businesses, and the needs of the communities where these businesses are located since these products and services help strengthen our existing industry and help seed the growth of new industries, thus supporting new and sustainable science-based jobs. Many jobs are created from small and medium business, so policies should not overly favor any sector or size of business.

Policy Recommendations

Business, Technology and Commercialization – ACS supports a fair and level playing field that enhances competition, stimulates research and development, and grows the workforce through the following actions:

- Provide grants, low-interest loans, and accelerated depreciation tax incentives to mitigate the high start-up or retooling costs associated with chemical and related high-technology businesses.
- Expand federal programs that provide targeted support for science and engineering activities to help chemical businesses (both large and small) commercialize technology from academic institutions and science research agencies.
- Advance higher standards and provide enhanced learning opportunities from pre-K through higher education to ensure that U.S. students have the critical technical and business background and skills needed for global competitiveness.
- Expand fundamental research capabilities and activities in academic research environments and national laboratories, promote partnerships between businesses and academic and national laboratories, and support initiatives to facilitate technology transfer to businesses, both to enable technology commercialization and to provide training for a skilled workforce.

Small Business and Entrepreneurship – ACS supports policies that foster the growth of the chemical enterprise, including small businesses and entrepreneurs, through the following actions:

- Improve access to shared resources, information, and facilities for the conduct of both early-stage proof-of-concept work and scale-up of technology by providing incentives for businesses to collaborate as well as infrastructure and mechanisms to facilitate such exchanges.
- Support existing and consider new incentive programs to encourage investment in technology development, such as making R&D tax credits accessible to start-up businesses by making them refundable or transferable.
- Support the Small Business Innovation Research (SBIR), Small Business Technology Transfer (STTR), Small Business Investment Companies (SBIC), and Small Business Administration microloan programs and reform these programs to make direct research funding for small businesses more readily available.
- Support existing and consider new programs to encourage investment by established companies, especially businesses developing new technologies through collaborations with academia, institutes, and on grants.
- Provide coordination and information exchange about incentives offered at the federal, state and regional level.

Taxes, Trade and Infrastructure – ACS supports efforts to foster U.S. corporate tax, trade, and infrastructure investment policies that will support American firms' competitiveness in the global business atmosphere through the following actions:

- Revise the tax codes to encourage investment in U.S. chemical industry jobs, facilities, and research, while still generating the revenues that the government needs to fund its services.
- Provide preferential tax treatment for repatriated income that is invested in U.S.-based research, technology development, and job creation.
- Encourage states to provide tax credits for R&D and investment in chemical and related high- technology startups.
- Provide economic incentives to businesses, both U.S. and foreign-owned, to invest in U.S.-based jobs, manufacturing, and research.
- Provide retraining and job searching for displaced workers in science and technology.
- Invest in maintenance and improvement of critical U.S. infrastructure that will facilitate commerce, manufacturing and transportation of goods, and stabilize raw material supply chains.

Regulation and Intellectual Property – ACS supports reforms to the U.S. regulatory and intellectual property frameworks that will promote, and minimize impediments to, innovation through the following actions:

- Ensure federal regulations concerning air, water, and other media that protect health, safety and the environment are balanced to protect local communities as well as minimize their impacts on businesses.
- Streamline the federal chemical security program to address current threat levels effectively with minimum disruptions to business.
- Balance the public's right-to-know with protection of confidential or proprietary business information in the development of new regulations, including chemical management laws.
- Ensure that government regulatory agencies are appropriately staffed with knowledgeable scientists to ensure timely development of regulations.
- Appoint and fully fund the Chemical Safety Board so that chemical accidents can be investigated so that recommendations for inherently safer technologies and practices can be disseminated throughout the industry.
- Ensure that the U.S. Patent and Trademark Office (PTO) and U.S. Copyright Office are appropriately staffed with qualified agents to ensure timely and fair processing of applications.
- Allow the PTO to apply all fees directly to the creation of a more efficient patent review process with scientific rigor.
- Strengthen intellectual property protection to promote U.S. firms' innovation, competitiveness, and economic growth and reduce instances of infringement and theft of American copyright and patent holdings through consistent enforcement and trade.