

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. Since World War II, 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 three of the top 10 chemical companies with the highest R&D investments are U.S.-based companies¹. And yet, the nation's chemical industry is an approximately \$800 billion enterprise that touches more than 96 percent of U.S.-manufactured products, accounts for nearly 14 percent of U.S. exports, 15 percent of the world's chemicals, and a significant portion of U.S. patents. A strong U.S. chemical enterprise is supported by both "sustaining" innovations to keep commodity chemicals production competitive and also "disruptive" innovations 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, regulatory environment, trade policies, and tax code should work together to assure 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. 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 federal government should create a policy environment conducive to business development at all levels that would aid the chemistry enterprise in creating and commercializing new products and services here in the United States. These products and services would help strengthen our existing industry and help seed the growth of new industries, thus supporting new and sustainable science-based jobs.

¹ <http://cen.acs.org/content/dam/cen/94/30/globaltop50.pdf>

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:

- Expand fundamental research capabilities and activities in academic research environments and national laboratories, enable partnerships between businesses and academic and national laboratories, and support initiatives to facilitate technology transfer to businesses, serving to both enable technology commercialization and provide training for a skilled workforce.
- 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 providing opportunities in education from pre-K through college to ensure that U.S. students have the critical technical and business background and skills needed for global competitiveness.
- Revise existing laws strategically as business conditions change.

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.
- Continue the support of existing and consideration of new incentive programs to encourage investment supporting 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.
- Continue the support of existing and consideration of new programs to encourage investment by established companies, or provide other support to businesses developing new technologies through collaborations at institutes, on grants, and through other investment programs.
- 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 (addressing both the federal corporate tax rate and the taxation rate for carried interest for long-term, venture and angel capital investments in high-risk start-up companies) to encourage investment in U.S. chemical industry jobs, facilities, and research, yet generate 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.
- Build a more flexible international trade framework to encourage vigorous global trade and to better balance security considerations with the partnerships that advance science and technology development.
- Assist displaced science and technology workers with trade-related retraining and job searching.
- Invest in maintenance and improvement of critical infrastructure that will facilitate commerce, manufacturing and transportation of goods.

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:

- Focus federal laws concerning air, water, and other media to protect health, safety and the environment while minimizing 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, notifications about them and receipt and consideration of responses to them.
- Ensure that the U.S. Patent and Trademark Office (PTO) is appropriately staffed with scientifically-qualified agents to ensure timely and fair processing of patent applications.
- Allow the PTO to apply all fees directly to the creation of a more efficient patent review process.
- Strengthen intellectual property protection to reduce instances of violation of American copyright and patent holdings, and to promote U.S. firms' innovation, competitiveness, and economic growth.