

The talent, intellect, and entrepreneurial spirit of the American people have made this nation the leader in economic and technological advancements. American leadership is fueled by national investments in an educated and skilled workforce, groundbreaking federal research and development by the public and private sectors, and a steadfast commitment to being the most competitive and innovative nation in the world. Promoting American High-Tech Manufacturing

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Promoting American High-Tech Manufacturing

Market Based Manufacturing Incentives

Our nation's shift from a manufacturing economy to a service economy has decimated our middle class and eroded our position of global leadership, and threatens to drive us into permanent decline. The country is rife with a myriad of symptoms, but diagnosing the core problem is simple enough: We do not make things in America anymore.

It does not have to be this way. There are a number of steps we can take, but they have to address the root cause. The first thing we must do is start providing incentives to level the playing field so that it makes economic sense for companies to decide to manufacture in the United States. We may not be able to match the incentives offered by our trading partners and international competitors dollar-for-dollar, but we can make the choice competitive enough that we can leverage the inherent advantages that our country still offers to industry: the research and development for the vast number of market-changing products is still done in the US; and the US continues to be the largest market in the world.

To achieve this, I introduced the [Market Based Manufacturing Incentives Act](#), which capitalizes on these competitive advantages. It creates a nonpartisan commission of experts from the private sector that will identify the next ten disruptive technologies (technologies that create new markets and displace earlier technologies) and designate them for a tax credit to the consumer if they are manufactured in the United States. The commission will also recommend the size (between 5 and 20 percent) and the duration (from 5 to 10 years) of a consumer tax credit for each product. The tax credit will be made available to the consumers of the designated products, whether businesses or individuals, giving domestically manufactured products a leg up in the marketplace.

This will not just encourage US companies to keep their manufacturing in America, but will also bring in manufacturers from abroad who want the advantage that domestic manufacturing grants them in our marketplace. They will not only bring their business, but also the sustainable middle class jobs that come with them.

Scaling Up Manufacturing

I am also working on helping startups that are reaching the point where they are ready to go to market. I am developing legislation that will provide a tax incentive for companies that place their first manufacturing facility in the United States. This approach will not pick winners and losers — instead, it will set up a situation in which companies that have been able to do their own research and development, and obtain their own capital, will have an incentive to scale up in the U.S.

The targeted beneficiaries of the provision will be emerging companies that are preparing to scale up production in order to enter the commercial market. Some principal characteristics of the targeted recipient should include:

- Significant manufacturing of tangible goods as part of their business model.
- Demonstrated commercial viability for the product.
- Manufacturing processes that require a manufacturing facility and/or specialized equipment in the fabrication of a company's finished product.
- Incentive should be targeted at the construction, purchase, or leasing of a manufacturing facility and/or specialized equipment used in fabricating a company's product.

This scaling up manufacturing incentive will be broad based, but tightly focused on domestic start-up and emerging companies. Current domestic manufacturing incentives suffer from one of two principal shortcomings: either they are too broadly based and therefore expensive and difficult to administer (e.g. §199), or they are only available to a particular industry – or group of substantially connected industries – limiting their reach and effectiveness in creating long-term manufacturing jobs (e.g. §48C). Synthesizing the benefits of each of these approaches requires that the incentive be targeted to a particular point in the business cycle common to most or all manufacturing companies. Based on consultations with economists, industry participants, and policy professionals, that commonality appears to be greatest at the point where companies are scaling-up production.

Ensuring America's Competitiveness – Encouraging Innovation and the Development of Technology

Unfortunately, America's global leadership in technological advancement and innovation is being seriously challenged by other countries. To address the state of America's global competitiveness in science and technology, I worked with my colleagues on the Democratic Leader's task force to develop the Democrats Innovation Agenda - A Commitment to Competitiveness To Keep America #1. Working with leaders from the high-technology, venture capital, academic, biotech and telecommunications sectors, we identified and committed to the following priorities that will guarantee our national security and prosperity, expand markets for American products, and assert economic leadership throughout the world:

- Create an educated, skilled workforce in the vital areas of science, math, engineering, and information technology;
- Invest in a sustained federal research and development initiative that promotes public-private partnerships;
- Guarantee affordable access to broadband technology for all Americans;
- Achieve energy independence in 10 years by developing emerging technologies for clean and sustainable alternatives that will strengthen national security and protect the environment; and,
- Provide small businesses with the tools to encourage entrepreneurial innovation and job creation.

In 2007, Congress passed and the President signed into law the [America COMPETES Act](#) which incorporated many important elements of the Innovation Agenda, recommendations included in the National Academies' report

Rising Above the Gathering Storm

, to strengthen our national economic competitiveness through investments in science, technology, engineering, and math (STEM) education, by setting our science research agencies on a path to doubled funding, and by addressing our need for innovation in energy research.

As a member of the Commerce, Justice, Science and Related Agencies and Labor, Health and Human Services, Education, and Related Agencies Appropriations Subcommittees, I am proud to have delivered on the funding needed to implement the America COMPETES Act in the years since its enactment and I plan to continue to do so.

In 2010, Congress passed and the President signed into law the [America COMPETES Reauthorization Act, H.R. 5116](#)

, to continue investing in American innovation. I was pleased that the bill included provisions to ensure coordination of federal Science, Technology, Engineering, and Mathematics education programs that I originally proposed in my

[Enhancing Science, Technology, Engineering, and Mathematics Education Act](#)

. I am continuing my work to improve STEM education in our country, including the development of excellent teachers, to ensure that we have the workforce needed to “win the future” as President Obama said in his 2011 State of the Union address.

Nanotechnology

While serving as a member of the [Science Committee](#), I enacted [legislation](#) to encourage the development of nanotechnology in the United States. The emerging fields of nanoscience and nanoengineering (collectively, “nanotechnology”), which allow the control of materials at the atomic level, are leading to unprecedented scientific and technological opportunities that will benefit society by changing the way many items are designed and made, in areas such as electronics, medicine, energy, biotechnology, and information technology. According to various estimates, including those of the

[National Science Foundation](#)

, the market for nanotechnology products and services in the United States alone could reach over \$1 trillion later this century.

Following enactment of this important bill, I convened the [Blue Ribbon Task Force on Nanotechnology](#) with State Controller Steve Westly. Throughout 2005 this distinguished group, whose diverse membership drew from academia, government, established industry, startup companies, consulting groups, non-profits, and industry associations throughout California, debated ideas and developed a series of policy recommendations that are included in the report

[Thinking Big About Thinking Small](#)

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Many of these recommendations are reflected in a bill I introduced, the [Nanotechnology Advancement and New Opportunities \(NANO\) Act](#), designed to respond to the ways in which the field has evolved over the past few years. The NANO Act would focus America’s nanotechnology research and development programs on areas of national need such as energy, health care, and the environment, and have provisions to help assist in the commercialization of nanotechnology. The bill also addresses the uncertainty that is one of the major obstacles to the commercialization of nanotechnology – uncertainty about what the health and safety risks might be and uncertainty about how the federal government might regulate nanotechnology in the future – by requiring the development of a nanotechnology research plan that will ensure the development and responsible stewardship of nanotechnology.

Other important areas that are addressed by my bill include:

- the development of curriculum tools to help improve nanotechnology education;
- the establishment of educational partnerships to help prepare students to pursue postsecondary education in nanotechnology;
- support for the development of environmentally beneficial nanotechnology; and
- the development of advanced tools for simulation and characterization to enable rapid prediction, characterization and monitoring for nanoscale manufacturing.

In the 111th Congress, Science and Technology Committee Chairman Bart Gordon introduced similar legislation, H.R. 554, the [National Nanotechnology Initiative Amendments Act](#), which was included in the House version of the America COMPETES Reauthorization Act. Unfortunately, it was stripped from COMPETES during negotiations with the Senate. I am continuing my efforts to promote nanotechnology in the 112th Congress with the NANO Act as well as through my role on the Commerce, Justice, Science, and Related Agencies Appropriations Subcommittee, which has jurisdiction over many of the key agencies in the NNI.

I believe it is critical that we ensure that the development of nanotechnology is done responsibly. You can read a speech I delivered at the "[NanoWorld: Toward a Policy for the Human Future](#)" Conference to hear my thoughts on the promise of nanotechnology and the need to consider ethical questions as we move forward.

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