



POLICY RECOMMENDATIONS TO
CREATE U.S.
MANUFACTURING JOBS



photo by: brian talbot

Recommendations include:

- Tax policies and incentives
 - Lower corporate tax rates and/or strategic opportunities to repatriate foreign earnings
 - Tax credits for manufacturing jobs, facilities and equipment; goods manufactured in the U.S.; and research and development (R&D)
- Easier access to capital, including a DOE framework lending program
- Educating and attracting the world's top talent
 - Immigration Reform – Hiring the best and brightest in the world to innovate in the U.S.
 - Educating tomorrow's workforce: Improving K-12 And higher education
- Creating demand and stability in the market through long term government purchases of goods manufactured in the U.S.
- Reducing regulatory burdens, including export control reform

[Policy recommendations to create U.S. manufacturing jobs](#)

The U.S. government has a central role in enabling the creation of a high volume of U.S. manufacturing jobs to form a solid foundation for economic recovery. It will require developing an aggressive, targeted, cohesive and streamlined set of policies to compete in the global economy. Recommendations include:

1. Tax policies and incentives
 - Lower corporate tax rates and/or strategic opportunities to repatriate foreign earnings
 - Tax credits for manufacturing jobs, facilities and equipment; goods manufactured in the U.S.; and research and development (R&D)
2. Easier access to capital
 - DOE Framework lending program
3. Educating and attracting the world's top talent
 - Immigration Reform – Hiring the best and brightest in the world to innovate in the U.S.
 - Educating tomorrow's workforce: Improving K-12 and higher education
4. Creating demand and stability in the market through long term government purchases of goods manufactured in the U.S.
5. Reducing regulatory burdens; and streamlining processes
 - Export control reform

The U.S. competes with nations around the world that actively offer these solutions to businesses. If the U.S. adopts these suggestions, it will allow the country to be more competitive in attracting manufacturing jobs. Congress and the Administration must then shepherd successful implementation with support and early input from employers to both improve existing efforts and create new ones.

[Background](#)

"While we were busy building services and a service economy, other countries were stealing our manufacturing base...Looking back, we likely were short-sighted. We assumed that companies start with the intellectual capital to dream up new products, architect and write software, design hardware, and then go to production. But once we shed our production, the producers overseas began to also see the value in invention. And they began to move backward up the food chain, eating their way right into our economy."⁽¹⁾ Kevin Surace, CEO, Serious Materials

In the 1950's, the U.S. produced 45 percent of the manufactured goods and supplied most of the raw materials in the world. At that time, the percentage of U.S. manufacturing jobs peaked at more than 30 percent and then declined to 26.5 percent in 1969 and to just 9.25 percent in 2009⁽²⁾. In California alone, industrial jobs have declined 34 percent since January 2001 with a loss of more than 631,000 jobs⁽³⁾.

While still a world leader in manufacturing, the U.S. continues to lose ground in the face of intense global competition as other nations introduce trade barriers on imports while aggressively courting manufacturing jobs through generous subsidies for products made within their country; low interest loans for facilities and equipment; tax credits for labor costs; and expedited processes for building permits.

With unemployment currently above 9 percent in the U.S. and roughly 12 percent in California, the U.S. will not be able to climb out of recession without creating a higher volume of new domestic jobs. Unlike the U.S. recovery in post World War II, today's economic environment makes it challenging to attract new manufacturing jobs without competitive legislative and regulatory policies from the federal government as current efforts have been limited in scope, quantity and efficacy. States have attempted to make themselves more attractive to businesses, but budget deficits and short budget cycles make it difficult for them to offer the same type of incentives the federal government can guarantee.

"To date, federal efforts to be globally competitive with other nations have been like bringing a knife to a gun fight."
Bill Watkins, CEO, Bridgelux

[Solutions](#)

Andy Grove, former Intel CEO, describes scaling – taking a product

from idea to mass manufacturing – as the key to job creation. To accomplish this, he argues that we need to rebuild our industrial commons and infrastructure that have been eroding since manufacturing jobs started moving offshore decades ago. *"Industry needs an effective ecosystem in which technology 'know how' accumulates, experience builds on experience and close relationships develop between supplier and customer."⁽⁴⁾*

In addition to policies that work together to build this ecosystem, scaling requires large amounts of capital to be committed early in the business cycle, often years before a company knows the demand for a product and if a product will work. For Intel, the cost of building a silicon manufacturing plant in the U.S. rose from a few million dollars in the 1970's to several billion dollars in the 1990's.

To address these issues and other challenges, the following is a summary of suggestions by Silicon Valley Leadership Group member companies on how to increase manufacturing jobs in the U.S.

[1. Tax policies and incentives](#)

[Lower Corporate Tax Rates and/or Strategic Opportunities to Repatriate Foreign Earnings](#)

"One trillion dollars is roughly the amount of earnings that American companies have in their foreign operations—and that they could repatriate to the United States. That money, in turn, could be invested in U.S. jobs, capital assets, research and development, and more. But for U.S. companies such repatriation of earnings carries a significant penalty: a federal tax of up to 35 percent. This means that U.S. companies can, without significant consequence, use their foreign earnings to invest in any country in the world—except here." John Chambers, Chairman and Chief Executive Officer, Cisco Systems and Safra Catz, President, Oracle Corporation (October, 2010, Wall Street Journal)⁽⁵⁾

The most immediate and large scale change to create jobs is a reduction of the U.S. corporate tax rate. Cisco Systems CEO John Chambers recently pointed out that \$1.2 trillion dollars are stuck outside the U.S. and could otherwise be used to build U.S. manufacturing infrastructure and jobs. A recent analysis by the Milken Institute, "Jobs for America," concluded that reducing U.S. corporate income tax rates to the current average of organization for Economic Cooperation and Development (OECD) countries would stimulate growth in the manufacturing sector and create more than two million jobs by 2019.

The United States now has the second highest statutory corporate tax rate among the major industrial countries in the OECD. Among other developed nations, only the U.S. taxes foreign income. This places businesses at a distinct competitive disadvantage since most foreign competitors are not required to pay a similar tax to their home countries. This particular characteristic of the U.S. tax code poses special challenges when it comes to global investment decisions and the return of foreign profits back to the United States.

"I can tell you definitively that it costs \$1 billion more per factory for me to build, equip, and operate a semiconductor manufacturing facility in the United States. The bottom line is that 90 percent of the additional cost of a \$4 billion factory is not labor but the cost to comply with taxes and regulations that other countries do not impose. If our tax rate approached that of the rest of the world, corporations would have an incentive to invest here. But in fact, it's the second highest in the industrialized world, making the United States a less attractive place to invest and create jobs—than places in Europe and Asia that are 'clamoring' for Intel's business⁽⁶⁾." Paul Otellini, CEO, Intel

A reduction in the corporate tax rate might be accompanied with other proposed reforms such as reevaluating whether foreign tax credits are necessary given that they are utilized as an offset against the high corporate tax rate.

Strategic opportunities to repatriate foreign earnings would also free up much needed capital for U.S. jobs and the economy. The current U.S. tax rate of 35 percent provides such a large disincentive that few U.S. multi-national corporations choose to bring foreign earnings home to the U.S.

“In the last round of repatriation, we brought back a substantial amount of money, I think \$100 million, and we built a very large facility in Las Vegas. That took a lot of cash, and that cash was available to me because I had been able to repatriate at a lower rate⁽⁷⁾.” Tim Guertin, CEO, Varian Medical Systems

Tax credits for manufacturing jobs, facilities and equipment; goods manufactured in the U.S.; and research and development (R&D)

Broad based manufacturing tax credits are especially critical for scaling jobs since large upfront investments must be made on facilities and equipment. The most effective tax incentives for facilities and equipment will lower costs to be competitive with those in other countries, and are predictable and reliable, lasting several years to allow time for capital investments to produce returns. While companies will continue efforts to increase domestic productivity, job credits should bring U.S. labor to more parity with wages abroad. Credits should be limited to facilities, equipment and jobs in the U.S.

Tax credits can also be issued for the reuse or repurposing of plants that have closed down. Republic Windows and Doors garnered national attention because it closed unexpectedly, leaving more than 260 people unemployed just before Christmas 2008. Serious Materials, a clean tech manufacturer of high efficiency windows, acquired its assets and rehired former-Republic union workers. Serious Materials was able to succeed with the combination of a repurposed plant, a ready workforce and ARRA funds that provided incentives for individuals and businesses to buy their energy efficient products.

Investment Tax Credits for solar panels and other credits/rebates for consumers have proven to be very effective in creating or increasing demand for products. This credit was a driving factor in smaller solar companies being able to bring in revenue which they used to expand jobs and operations.

Lastly, the research and development (R&D) tax credit should be expanded and made permanent. By lowering the cost of hiring R&D workers, the tax credit helps to maintain and create new, highly-skilled, high-wage R&D jobs in the U.S., by driving new technologies that form the basis of the manufacturing ecosystem. It is a jobs credit because 80 percent of credit dollars are attributable to R&D wages. Every dollar increase in marginal research spending produces a return of up to \$2.96⁽⁸⁾.

In Silicon Valley alone, employers annually invest more than \$41 billion in research and development and would invest even more with a permanent and expanded R&D credit. Only R&D performed in the U.S. would qualify for the credit. Longevity and predictability of the credit are critical as well because future decisions on R&D investments are based on knowing that the credit will be in place at the time the R&D project is completed, which can easily take 5-10 years.

2. Easier Access to Capital

Access to capital has been increasingly difficult given the longest global recession since WWII and the reluctance of banks to lend much needed financing. While billions of dollars have been approved by the government, many companies have been unable to access the money. In the clean energy field, the government has issued approximately \$10.6 billion in guarantees under the 2005 program, only 21 percent of the total available, and approximately \$4.1 billion in guarantees under the 2009 program, only 7 percent of the originally appropriated funds. Because funds were not being used, approximately \$3.5 billion of the ARRA funds were re-allocated to the Cash-for-Clunkers program and other uses⁽⁹⁾. Only four renewable energy loan guarantees have been issued money even though 18 have conditional approvals⁽¹⁰⁾.

In a recent discussion with several local CEOs about how to increase exports, the CEO of a 300-person solar production firm headquartered in Silicon Valley suggested that loan guarantees need to be completed in a few months rather than in years. Companies often cite the application process as time-consuming and wrought with difficult requirements. DOE programs also tend to fund a relatively small number of large projects with mature technologies, overlooking the needs of small

and innovative businesses.

SVB Financial Group, a bank specializing in loaning money to early stage companies, has proposed that DOE adopt a framework lending program.

“The program would build upon existing, well-tested structures used by other government agencies, including the Export-Import Bank of the United States and the Department of Agriculture, to leverage private sector expertise and capital to expand DOE’s reach and effectiveness. DOE would determine which banks had the necessary qualifications to engage in this co-lending effort. In addition, it would perform its statutory responsibilities (such as National Environmental Policy Act reviews), approve credits, oversee lenders, and guarantee a specified portion of the debt. The approved banks would underwrite individual credits, manage and fund loans, and share in a portion of the credit risk⁽¹¹⁾.” Mary Dent, General Counsel, SVB Financial Group

Relative to companies in other parts of the world, U.S. clean tech companies also face much higher financing costs or are unable to raise any money. U.S. banks have been reluctant to lend to early stage startup companies, so many of them rely on venture capitalists and private equity firms that charge higher interest rates, raising the cost of doing business. In some cases, U.S. companies, such as Evergreen Solar, have been unsuccessful in getting any capital in the U.S., but rather have easily received funding from Chinese state banks who gave them loans for factories with very attractive terms, such as a five-year loan with no payments of interest or principal until the end of the loan⁽¹²⁾.

China Development Bank, owned by the Chinese government, exists to lend money for strategic priorities and has offered more than \$20 billion of low interest loans to Chinese solar companies. Bill Watkins, CEO of Bridgelux, a clean-tech startup creating LED bulbs, said the Chinese government has provided up to 80 percent of the capital needed for businesses to set up LED manufacturing plants⁽¹³⁾.

3. Educating and Attracting the World’s Top Talent

Immigration Reform – Hiring the best and brightest in the world to innovate in the U.S.

Allowing highly-skilled, foreign-born individuals to work or start businesses in the U.S. is essential for the nation’s economic recovery and future competitiveness. American businesses struggle to recruit highly sought-after professionals that provide intellectual capital that cannot be substituted solely by American citizens who comprise less than 5 percent of the world’s population. More than 50 percent of technology businesses formed in Silicon Valley can claim a foreign-born executive leader as a key founder, and 25 percent of U.S. venture-backed, publicly-traded businesses – such as Google, Intel, and eBay – have been founded or co-founded by immigrants. The U.S. needs these people with specialized skills and talents to invent tomorrow’s products in the U.S. to anchor the ecosystem needed for manufacturing.

Applying and obtaining H1B visas and green cards is such an arduous and tenuous process that many companies are locating workers in Canada, Europe or Brazil, where they can quickly obtain visas, or hiring these skilled workers in their home countries where they are running their manufacturing operations.

Recent innovative proposals are being considered by Congress could have quick impacts. The StartUp Visa Act of 2010 would grant U.S. visas to foreigners who start a business with at least \$1 million in capital and create at least 10 American jobs. Such policies would directly encourage entrepreneurship and economic growth here in the United States.

Educating Tomorrow’s Workforce: Improving K-12 and Higher Education

The U.S. must adequately invest in our K-12 and higher education systems for the long-term and provide incentives for the creation of a robust workforce. Decades of U.S. economic success has been built on having the best education system in the world. This is threatened by significant high school dropout rates and reductions in public education

spending. The U.S. ranks 29th out of 109 countries in the percentage of 24 year olds with a math or science degree, while less than 15 percent of U.S. high school graduates have sufficient math and science preparation to begin pursuing a degree in engineering.

The federal government has a critical role to ensure access to financial aid for graduate and undergraduate education; support for and accountability measures to advance the collection of student and teacher data at the state level; and supporting high-quality early child care and education. The America COMPETES Act in 2007 authorized increased funding for Science, Technology, Engineering, and Mathematics (STEM) research and education. America's competitiveness will only benefit from these types of efforts to train and recruit teachers in STEM fields, enhance math and science education and provide long-term and dedicated appropriations commitment to science research. In 2010, America COMPETES was scaled back and stalled in Congress. But it was finally reauthorized in January 2011. Unfortunately reauthorization of a scaled back America COMPETES bill has been stalled in Congress. While there are concerns about the deficit, the cost of falling behind the innovation curve will be devastating for our future and we fully support appropriations.

4. Create demand and stability in the market through long term government purchasing of goods manufactured in the U.S.

Bill Watkins, the Bridgelux CEO, and former CEO of Seagate, the world's largest manufacturer of hard drives, recently opened an LED bulb manufacturing plant in Silicon Valley creating 200 jobs. He explained in a San Francisco Chronicle article that "Chinese authorities have used the purchasing power of their municipal governments to create a demand for LEDs - which are still more expensive than ordinary lights on the initial purchase, but so energy efficient that they can pay back the differential in lower electric bills over time"⁽¹⁴⁾.

China has invested billions of dollars to replace traffic signals and street lights with energy saving LEDs, buying only from domestic producers and guaranteeing them a certain rate so they will make a profit. The U.S. would also spend billions if it were to replace every light bulb in government buildings and public spaces, with the added environmental and financial benefit of using less electricity. The U.S. government would create market demand and stability with long term contracts to purchase U.S. manufactured goods.

Watkins argues that the U.S. government buying goods will not only help U.S. companies create jobs, but will also entice foreign companies to open factories in the U.S. to meet market demand and access U.S. government assistance. For example, Suntech Power, a Chinese company with 68 employees in San Francisco, is opening a plant in Arizona with 75 manufacturing jobs so that they can draw down ARRA funding.

5. Reducing regulatory burdens and streamlining process

"A recurring theme in my conversations with U.S. CEOs is that the effort it takes to build a new plant is barely worth it anymore. There's just too much red tape, too many hoops to jump through, too much bureaucracy, too many special interests fighting you tooth and nail, too many unnecessary, if not nonsensical rules to contend with, too many permits and legal roadblocks"⁽¹⁵⁾. Harold Sirkin, Senior Partner, Boston Consulting Group

Layers of regulation implemented over decades in the U.S. have become a large impediment for businesses. When deciding if they should set up manufacturing facilities in the U.S., businesses must account for the extensive time and effort it takes for regulatory compliance and approval of permits, in addition to the higher taxes and labor costs. Additionally, businesses value certainty and efficiency in processes. For permits or programs, understanding the parameters (e.g. how to apply for something, who is eligible, what is required, how long it will take, how fast it will be processed) adds to the attractiveness of doing business in a country.

In China, the 2-year-old company, Sunzone, which makes solar panels and ships most of them to Europe, received financing and all the necessary permits to build a factory in three months under an expedited approval system. "Building and equipping a solar panel factory in the United States can take 14 to 16 months, while environmental and other

permits can take years," said Tom Zarrella, the former chief executive of GT Solar in New Hampshire, a supplier of solar manufacturing equipment to factories in the U.S. and China⁽¹⁶⁾.

Some of these efficiencies stem from lower standards but businesses are not advocating for their elimination. They realize that regulation is a necessary means to ensure quality of products, legal compliance, fair treatment of workers, and other desired outcomes. However, the government working with industry can lead to aggressive and innovative efforts to streamline, simplify and improve regulations plus eliminate those that are redundant or no longer needed.

Export controls

A good example of improving regulations is the Obama Administration's recent efforts to streamline and modernize export controls. Current control systems, which have been in place for more than 20 years, put the U.S. at a considerable disadvantage with global competitors due to unilateral and complicated export control bureaucracies on technology that is widely available elsewhere. Additionally, our universities are forced to back away from multinational research in new technologies due to unilateral Deemed Export regulations. The Administration is recommending the following legislative fixes:

- Adopt reasonable export controls to create a single, positive tiered control list and a single set of licensing policies for each tier of control;
- Strengthen enforcement of the rules for sensitive items of national security while relaxing others;
- Eliminate duplication; and
- Create one IT system.

These reforms would help increase U.S. exports, bringing clarity, efficiency and the environment businesses need to increase exports and global competitiveness so they can add jobs and balance out the trade deficit.

References:

- (1) Kevin Surace. SNS Special Letter: Green Tech and How It Must Save America. October 5th, 2009.
- (2) Bureau of Labor Statistics: <ftp://ftp.bls.gov/pub/suppl/empsit.ceseeb1.txt>
- (3) California EDD, Labor Market Information Department
- (4) Andy Grove, Bloomberg Businessweek. How America can create jobs. July 1, 2010.
- (5) John Chambers, Chairman and Chief Executive Officer, Cisco Systems and Safra Catz, President, Oracle Corporation (October, 2010, Wall Street Journal)
- (6) Aspen Forum. Technology Policy Institute. August 2010.
- (7) Silicon Valley / San Jose Business Journal. Global business isn't foreign to Silicon Valley CEOs. September 3, 2010.
- (8) U.S. Bureau of Labor and Statistics
- (9) SVB Financial Group. Small business lending program for renewable energy and clean technologies. September 23, 2010.
- (10) Keith Bradsher, NY Times. On Clean Energy, China Skirts Rules. September 8, 2010.
- (11) SVB Financial Group. Small business lending program for renewable energy and clean technologies. September 23, 2010.
- (12) Keith Bradsher, NY Times. On Clean Energy, China Skirts Rules. September 8, 2010.
- (13) Tom Abate, San Francisco Chronicle. Execs explain how U.S. can boost manufacturing. July 31, 2010.
- (14) Tom Abate, San Francisco Chronicle. Bridgelux's fastest, cheapest option: Livermore, September 20, 2010.
- (15) Harold L. Sirkin, Bloomberg Businessweek. "Made in the USA" still means something - Despite downturn, the nation remains the world's leading manufacturer. April 19, 2009.
- (16) Keith Bradsher, NY Times. On Clean Energy, China Skirts Rules. September 8, 2010.