



President-Elect Trump's Positions on Technology and Innovation Policy

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This report provides an overview of the general philosophy that the president-elect has articulated on technology, innovation, and trade policy, then examines his policy positions across eight specific issue areas.

Technological innovation has long been and will continue to be critically important to both income growth and national competitiveness. So it is important that we examine President-elect Donald Trump's policy agenda through that lens.¹

This report is based on information gathered directly from the president-elect's campaign websites and policy documents, and from media accounts of statements he has made. The report begins with an overview of the general philosophy the president-elect has articulated on technology, innovation, and trade policy, then examines his policy positions across eight specific issue areas:

Innovation and R&D
Education and Skills
Taxes and Budget
Trade

Regulation
Broadband and Telecommunications
Internet and Digital Economy
Life Sciences and Biotechnology

GENERAL PHILOSOPHY TOWARD TECHNOLOGY AND INNOVATION POLICY

During the campaign, President-elect Trump largely focused on issues other than technology and innovation policy. And when he spoke about the tech industry, his comments occasionally were critical. In general, there were few articulated policy positions, especially outside of the tax and trade area. As of early August, there were just six policy positions listed under the "Positions" tab of the official Trump campaign website.² A separate "Issues" area of the site consisted of only about 20 short videos (most less than a minute in length) in which Trump discussed his agenda, but the videos that could be related to innovation (e.g., "jobs," "education," and "the economy") provided only broad brushstrokes and no specific mention of innovation.³ The Trump campaign site did provide some detail about his position on China, which would have the federal government take a much stronger position on issues such as currency manipulation and intellectual

property theft. In an August 8 speech at the Detroit Economic Club, Mr. Trump also offered details on his economic plan, which includes reducing the corporate tax rate to 15 percent, allowing unlimited first-year expensing on all equipment, taxing foreign source income that is repatriated at 10 percent, and significantly reducing federal regulation.

Table 1: The President-Elect's General Philosophies Toward Technology and Innovation Policy

General Philosophies
<ul style="list-style-type: none">▪ Generally conservative position of significantly reducing business taxes and regulations, including a significant reduction of corporate taxes.▪ Unclear position on high-skill immigration.▪ Supports strong homeland security with potential effects on weakening encryption.▪ Would strengthen trade enforcement, including by renegotiating existing trade deals.

Among nations, a fierce race for global innovation leadership has emerged.

Innovation and R&D

Among nations, a fierce race for global innovation leadership has emerged.⁴ Countries increasingly recognize the importance of coordinated national innovation and R&D strategies in driving growth and spurring the competitiveness of their enterprises, which explains why more than four dozen countries have now created national innovation strategies and/or launched national innovation foundations.⁵ But as ITIF found in a comparative analysis of 56 leading nations, U.S. policies are only the world's 10th-best (on a per capita basis) at proactively contributing to global innovation.⁶ That's in large part because the U.S. government underinvests in R&D relative both to historical norms and to peer nations (on a per capita basis) and also because the United States increasingly offers less attractive incentives for R&D activity; in fact, the U.S. R&D tax incentive is now only the world's 27th most generous.⁷

While, as a nation, the United States continues to invest the most annually in scientific research in absolute terms, the country has slipped to just ninth among OECD nations in terms of research expenditures per capita.⁸ Much of this is due to cuts in federal funding of R&D. In fact, federal funding for R&D as a share of GDP in 2016 will be the lowest it has been since the Russians launched Sputnik, almost 50 years ago.⁹ And faltering federal R&D funding also explains why the United States has fallen to just 24th out of 39 OECD nations in government funding of university R&D.¹⁰

In fact, to restore the federal R&D to GDP ratio to average levels in the 1980s, the federal government would need to invest \$65 billion more—per year.¹¹ This matters because federal R&D funding is crucially important to U.S. innovation, as ITIF has documented in

numerous reports.¹² But so are a host of other policies to support innovation, including patent reform, and tech transfer.

Table 2: The President-Elect’s Positions on Innovation and R&D Policy

Issue	Position
Federal R&D Funding	<ul style="list-style-type: none"> No position. However, has signaled a desire to direct funding to current challenges (such as infrastructure) as opposed to future-oriented scientific research or missions (such as space-related research).¹³
Technology Transfer and Commercialization	<ul style="list-style-type: none"> No position.
Supporting Start-ups and Small Businesses	<ul style="list-style-type: none"> No position.
Patent System Reform	<ul style="list-style-type: none"> No position.

The United States needs to bring a much-needed dose of innovation to STEM education policy, including moving from the current “some STEM for all” to an “all STEM for some” approach.

Education and Skills

If America is to succeed in the innovation-powered global economy, then it is vital to boost education in the so-called “STEM” subjects of science, technology, engineering, and math.¹⁴ Yet the United States needs to bring a much-needed dose of innovation to STEM education policy, including moving from the current “some STEM for all” to an “all STEM for some” approach. One key way to bolster STEM education is through the creation of more math and science high schools.¹⁵

One of the long-standing strengths of the U.S. national innovation system has been its ability to use scientific and technological talent effectively, regardless of its source.¹⁶ The global talent imperative requires that the United States implement policies that will both produce a domestic workforce equipped with globally demanded skills and be open to skilled foreign workers who wish to pursue their talents in the environment of economic opportunity the United States affords.

Table 3: The President-Elect’s Positions on Education and Skills Policy

Issue	Position
Immigration of High-Skill Foreign Workers	<ul style="list-style-type: none"> In the campaign, Mr. Trumps opposed H-1B visas, calling guest workers cheap substitutes for American labor.¹⁷ He proposed requiring companies to hire from an unemployed

pool, and suggested raising wage requirements for H-1B workers.

- Has stated that he is for high-skilled immigration, despite opposition to H-1B program specifically.

Support for STEM Education

- Has suggested tying student loan decisions to job prospects after graduation, which would promote STEM majors with high expected wages.¹⁸
- Argues that there is no shortage of skilled STEM workers because some STEM graduates do not find jobs in their fields.¹⁹

Supporting Innovation in Education

- Calls for education to be locally driven.
- Is against the Common Core, and has stated that he will dismantle it.²⁰

The corporate tax code should explicitly promote the international competitiveness of American businesses and encourage innovation.

Taxes and Budget

Governments can spur innovation by creating a favorable climate for private sector investment that makes the U.S. corporate tax code more competitive with other nations and also leverages tax policy to incent private sector R&D and investment. As ITIF has argued, the U.S. corporate tax code should explicitly promote the international competitiveness of American businesses and encourage innovation by providing incentives for the drivers of productivity and innovation: investment in R&D; new capital equipment, especially information and communications technology; and workforce education and training.²¹ Unfortunately, America now has the highest combined federal-state statutory corporate tax rate among OECD countries, at 39.2 percent.²² It is the only OECD country in which the statutory corporate tax rate did not decline between 2000 and 2012.²³

Moreover, even as an increasing number of countries use R&D tax incentives as a key component of their innovation-led economic development strategies, the United States fell from providing the most generous R&D tax incentive among OECD countries in the late 1980s, to ranking 17th in 2004, and 27th in 2012.²⁴ Brazil, China, and India each offer more generous R&D tax credits than the United States. The United States should also bring more innovation to its tax code by introducing more collaborative R&D tax credits and by taxing revenues from newly patented products at preferential rates.²⁵

Table 4: The President-Elect's Positions on Tax Policy

Issue	Position
Corporate Tax Rates	<ul style="list-style-type: none">▪ Would reduce rate to 15 percent.²⁶▪ End deferral of tax on foreign earnings.²⁷▪ Reduce or eliminates “corporate loopholes that cater to special interests.”²⁸▪ Phase in a “reasonable” cap on the deductibility of interest expense.²⁹▪ Immediate expensing for all new business investments.³⁰▪ Repeal corporate alternative minimum tax.³¹
Deemed Repatriation	<ul style="list-style-type: none">▪ Taxes past foreign profits held in cash at 10 percent.³²
Tax Rate on Foreign Earnings	<ul style="list-style-type: none">▪ Lower rate to 15 percent.³³▪ Eliminate deferral of tax.³⁴
Innovation Box	<ul style="list-style-type: none">▪ No position.
R&D Tax Credit	<ul style="list-style-type: none">▪ No position.
Accelerated Depreciation	<ul style="list-style-type: none">▪ No position.
Individual Rate	<ul style="list-style-type: none">▪ Create three brackets with a top rate of 33 percent.³⁵▪ Eliminate marriage penalty.³⁶▪ Eliminate Alternative Minimum Tax.³⁷▪ Pass-through entities pay 15 percent personal income tax on business income.³⁸▪ Eliminate estate tax.³⁹▪ Reduce or eliminate “most deductions and loopholes available to the very rich.”⁴⁰

- Steepen the curve for phasing out the personal exemption and the Pease limitation on itemized deductions.⁴¹
- Phase out exemption on life-insurance interest for high-income earners.⁴²
- Eliminate 3.8 percent net investment tax.⁴³
- Allow a full deduction for the average cost of child care.⁴⁴

Capital Gains Rate

- Tax capital gains and dividends at a top rate of 20 percent.⁴⁵

Carried Interest

- End carried interest.⁴⁶

The United States must play a leadership role in defending an open and rules-based trading system, while demanding rigorous enforcement of trade commitments.

Trade

With much of the U.S. economy based on innovation, where firms have relatively high fixed costs and lower marginal costs, the right trade policy is essential to ensuring open and fair access to global markets, as this spurs U.S. productivity, innovation, and jobs.⁴⁷ But global trade is at a crossroads—multilateral trade negotiations have collapsed while a growing number of countries enact protectionist policies, often as part of “innovation mercantilist” strategies that seek to systematically disadvantage foreign goods and services, especially those in high-tech industries. As ITIF concludes in a number of reports, the United States must play a leadership role in defending an open and rules-based trading system, while demanding rigorous enforcement of trade commitments in order to show that open, market-driven commerce is the best way to achieve sustainable global prosperity.⁴⁸ One way the United States can lead is by pioneering innovative new, high-standard trade agreements such as the Trans-Pacific Partnership (TPP), Transatlantic Trade and Investment Partnership (T-TIP), and Trade in Services (TiSA) Agreements.⁴⁹ Another way is to give significantly more attention to trade enforcement.

Unfortunately, in large part because many, if not most, in the Washington trade establishment have ignored or dismissed the need for strong trade enforcement, the political economy of trade in the United States has increasingly soured, with the president-elect taking a position against the recently concluded TPP agreement and even calling into question past agreements such as the North America Free Trade Agreement (NAFTA). Yet both market opening and trade enforcement are vital for the health of both the U.S. and global economy, and the next president will need to show real leadership in crafting a more balanced trade agenda, coupled with a robust national competitiveness strategy at home.

Table 5: The President-Elect’s Positions on Trade Policy

Issue	Position
General Approach	<ul style="list-style-type: none"> ▪ Fair, rules- and market-based trade can be beneficial for both U.S. and broader global economy. Has said “I’m not against trade. I just want to make better deals.”⁵⁰ Asserts goal is “accountability,” not “protectionism.” ▪ Would place more emphasis on trade enforcement as opposed to negotiating new trade agreements. ▪ Favors the negotiation of bilateral over multilateral trade agreements. Has threatened to pull the U.S. out of the World Trade Organization because he sees it as ineffective.⁵¹
Trans-Pacific Partnership (TPP)	<ul style="list-style-type: none"> ▪ Would “withdraw” the United States from TPP.⁵²
Trans-Atlantic Trade and Investment Partnership (T-TIP)	<ul style="list-style-type: none"> ▪ Has not taken a position (text of the Agreement is still under negotiation).
Trade in Services Agreement (TiSA)	<ul style="list-style-type: none"> ▪ No position.
North American Free Trade Agreement (NAFTA)	<ul style="list-style-type: none"> ▪ Would renegotiate elements of NAFTA and withdraw the U.S. if negotiations are not satisfactory.⁵³
Trade Enforcement	<ul style="list-style-type: none"> ▪ Would “direct the Secretary of Commerce to identify every violation of trade agreements a foreign country is currently using.”⁵⁴ ▪ Unilaterally apply tariffs against China if it “fails to stop illegal activities.”⁵⁵
Currency Manipulation	<ul style="list-style-type: none"> ▪ Immediately declare China a currency manipulator and begin to introduce countervailing duties.⁵⁶
China-Specific Trade Policy Issues	<ul style="list-style-type: none"> ▪ Increase number of trade cases the United States brings against China, both at the WTO and in the United States.⁵⁷

- “Put an end to China’s illegal export subsidies and lax labor and environmental standards.”⁵⁸
- Will “adopt a zero tolerance policy on intellectual property theft.”⁵⁹

Export-Import Bank

- Favors shutting down the Ex-Im Bank, calling it “feather bedding.”⁶⁰

Trade Adjustment Assistance (TAA)

- No position.

Penalties for Manufacturers That Offshore

- Would punish companies that offshore production by taxing (or placing additional tariffs on) their imports back to the United States.⁶¹

Digital Free Trade

- No position.

Supporting U.S. Exporters

- No position.

Buy America

- Supports “Buy America” in principle, noting “We’re better off paying a little bit more for U.S.-made products.”⁶²

Tariff Policy

- Favors taxation of “foreign, not domestic, production” and has noted that the Constitution did not include an income tax because the U.S. government was largely financed through tariffs on foreign imports.⁶³
- Has proposed a blanket 45 percent tax on Chinese imports and 35 percent tax on Mexican importers if the two nations do not reform their policies affecting U.S. trade.⁶⁴

The United States needs smarter regulations for its traded and non-traded firms alike.

Regulation

Designed properly, regulations can sometimes spur innovation and productivity. Even when they can’t do this, regulations should be designed in ways that limit cost and burdens on innovation. As such, the United States needs smarter regulations for its traded and non-traded firms alike. In this regard, ITIF has offered several recommendations, including forming an Office of Innovation Policy Review within the Office of Management and Budget (akin to an Office of Information and Regulatory Affairs for innovation).⁶⁵ Moreover, OIRA should introduce an “international competitiveness screen” into its

review of federal regulations. ITIF also supports passage of the REINS bill, which would reform the regulatory process for all agencies.

Table 6: The President-Elect’s Positions on Regulatory Policy

Issue	Position
OMB Regulatory Reforms	<ul style="list-style-type: none"> Would issue “a temporary moratorium on all new agency regulations.”⁶⁶ Order agencies to catalogue and eliminate all existing regulations “which are not necessary, do not improve public safety, and which needlessly kill jobs.”⁶⁷ Immediately cancel “all illegal and overreaching” executive orders.⁶⁸

Innovation is particularly fast in the mobile world, but next-generation wireline networks form the essential foundation of all digital networking.

Broadband and Telecommunications

We live in an information-rich world in which citizens increasingly depend on advanced digital networks to connect our smartphones and computers with vital databases and information processing systems in the cloud. As ITIF has written in the past, the opportunities for information technology to deliver improvements in the economy and quality of life are multiplied by fast, reliable, and pervasive digital networks.⁶⁹ Innovation is particularly fast in the mobile world, but next-generation wireline networks form the essential foundation of all digital networking. Broadband and telecommunication policy debates focus on a variety of issues, including the means of managing spectrum rights, the nature of net neutrality regulations, the transformation of telecommunications subsidies, and programs to spur Internet adoption and use.

Table 7: The President-Elect’s Positions on Telecommunications Policy

Issue	Position
Wireless Spectrum and 5G	<ul style="list-style-type: none"> No position.
Title II and Net Neutrality	<ul style="list-style-type: none"> Trump has expressed displeasure with the FCC’s Open Internet Order, tweeting that “Obama’s attack on the internet is another top down power grab. Net neutrality is the Fairness Doctrine.”⁷⁰
Communications Act Update	<ul style="list-style-type: none"> No position.

Internet and Digital Economy

The digital economy is a key driver of U.S. competitiveness and economic growth, and as such, the federal government should pursue policies that foster the adoption and use of information technology (IT). In general, policymakers should use a light touch to regulate legitimate use of digital technology, and take a hard line on regulating illegitimate digital activity, such as cybercrime and online piracy. In addition, as ITIF has written, because many technologies, such as the Internet of Things, are not pure private goods and exhibit what economists call network externalities, policymakers should partner with the private sector in enabling the robust development and use of such technologies.⁷¹ The next administration will need to bring smart policies to the table to promote the adoption of important productivity-enhancing technologies such as telehealth, artificial intelligence, intelligent transportation systems, and e-government as well as grapple with complex policy questions on a wide variety of issues including cybersecurity, copyright, and digital trade.

Because many technologies, such as the Internet of Things, are not pure private goods and exhibit what economists call network externalities, policymakers should partner with the private sector in enabling the robust development and use of such technologies.

Table 8: The President-Elect’s Positions on Digital Economy Policy

Issue	Position
Cybersecurity	<ul style="list-style-type: none">▪ Trump has argued that the United States has obsolete cybersecurity capabilities and that it is falling further behind other countries. To address this, he has said that “cyber has to be in our thought process.”⁷²▪ Trump has also vowed to “enforce stronger protections against Chinese hackers ... and our responses to Chinese theft will be swift, robust, and unequivocal.”
Encryption	<ul style="list-style-type: none">▪ Trump said that he fully agreed with a court order calling for Apple to facilitate access to an encrypted iPhone used by the San Bernardino shooter.⁷³
Internet Governance	<ul style="list-style-type: none">▪ No position.
Online Sales Tax	<ul style="list-style-type: none">▪ Trump has suggested that he believes online retailers should collect and remit sales taxes.⁷⁴
E-Government	<ul style="list-style-type: none">▪ Trump has not addressed this issue explicitly.▪ He has outlined a plan to modernize the Department of Veterans Affairs “by accelerating and expanding investments in state of the art technology to deliver best-in-class care quickly and effectively.”⁷⁵

The United States' ability both to invest significantly in life-sciences research and to ensure that its drug pricing and IP policies support robust private-sector innovation explain why America continues to lead the world in fostering an enabling environment for life-sciences innovation.

- In addition, he has stated that “All veterans should be able to conveniently schedule appointments, communicate with their doctors, and view accurate wait times with the push of a button.”⁷⁶

Open Data

- No position.

Copyright

- No position.

Online Speech

- Trump has repeatedly stated that he wants to work with the tech industry to find ways to prevent ISIS from recruiting online.⁷⁷

Commercial Data Privacy

- No position.

Government Surveillance

- Trump has stated that “I assume when I pick up my telephone, people are listening to my conversations anyway, if you want to know the truth. It’s pretty sad commentary, but I err on the side of security.”⁷⁸
- He has also stated that he wants to restore the Patriot Act.⁷⁹

Artificial Intelligence

- No position.

Life Sciences and Agricultural Biotechnology

Progress in life sciences and agricultural biotechnology in the 21st century is expected to dwarf the unprecedented advances in understanding in those fields over the preceding 100 years, bringing even more prodigious benefits. Informed observers expect dramatic transformations in the way we diagnose, treat, and prevent diseases; produce food, feed, and fiber for myriad uses; support our energy economy; and more. But these advances, derived from new understanding, depend on a number of essential prerequisites. These include strong intellectual property (IP) protections that stimulate and reward innovation; robust policies to encourage and enable research and development; a deep and wide foundation of fundamental research involving academic, government, and private-sector research enterprises; and cost-effective regulations to ensure safety for humans and the environment. Especially since the 1970s, the United States’ ability both to invest significantly in life-sciences research and to ensure that its drug pricing and IP policies support robust private-sector innovation explain why America continues to lead the world in fostering an enabling environment for life-sciences innovation.⁸⁰

However, continued U.S. life-sciences leadership depends on a strong commitment to investing in life-sciences research and to implementing policies, such as streamlined Food and Drug Administration (FDA) drug approval pathways, that promote innovation.⁸¹ Moreover, such leadership depends on a firm bipartisanship commitment to the preceding tenets, although, unfortunately, that bipartisan comity is increasingly tenuous.⁸²

At the same time, the total U.S. (public plus private) share of global life-sciences research funding declined from 57 percent in 2004 to 44 percent in 2012. But the problem is not only that other nations are catching up, it's also that the United States is not doing enough to sustain its historically robust investments in life-sciences research.⁸³ Indeed, following a decade of remarkable public sponsorship of medical research, with growth exceeding 7 percent per year in the 1990s, funding for the U.S. National Institutes of Health (NIH) declined nearly 2 percent per year in real terms after the mid-2000s, with this decrease accruing to a 13 percent decrease in NIH purchasing power (after inflation adjustment) since 2004.⁸⁴ Accordingly, going forward, U.S. policy should be to grow life-sciences funding at least at a rate that accounts for inflation and ideally at a level at least one-quarter of one percent (0.25 percent) of national GDP or higher.⁸⁵

In addition, with an anticipated global population of approximately 10 billion by 2050, humanity will need to nearly double the present annual production of food, feed, and fiber.⁸⁶ This must be done on a sustainable basis and in the face of increased challenges associated with climate change.⁸⁷ Biotechnology innovation will be one of the main ways this challenge can be solved.

Table 9: The President-Elect's Positions on Life Sciences and Agricultural Biotechnology Policy

Issue	Position
National Institutes of Health (NIH) Funding	<ul style="list-style-type: none"> ▪ Trump believes that a considerable amount of NIH funding is wasteful, stating, "I hear so much about the NIH, and it's terrible."⁸⁸ However, he has not articulated a specific position on funding levels.⁸⁹
Regulatory Policy	<ul style="list-style-type: none"> ▪ No position.
Data Exclusivity Periods for Biologic Drugs	<ul style="list-style-type: none"> ▪ No position.
Drug Pricing	<ul style="list-style-type: none"> ▪ Permit Medicare to negotiate drug prices.⁹⁰

Agricultural Innovation

- No position.

Mandatory GMO Food Labels

- No position.
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ENDNOTES

1. This report is adapted from “Clinton vs. Trump: Comparing the Candidates’ Positions on Technology and Innovation” (Information Technology and Innovation Foundation, September 2016), <https://itif.org/publications/2016/09/06/clinton-vs-trump-comparing-candidates-positions-technology-and-innovation>.
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ABOUT THE AUTHORS

Robert D. Atkinson is the founder and president of the Information Technology and Innovation Foundation. He is also the coauthor of the book *Innovation Economics: The Race for Global Advantage* (Yale, 2012).

Daniel Castro is vice president at ITIF. His research interests include health IT, data privacy, e-commerce, e-government, electronic voting, information security, and accessibility. Previously, Castro worked as an IT analyst at the Government Accountability Office where he audited IT security and management controls at various government agencies.

Stephen Ezell is vice president, global innovation policy, at ITIF. He focuses on innovation policy as well as international competitiveness and trade policy issues. He is coauthor of *Innovating in a Service-Driven Economy: Insights, Application, and Practice* (Palgrave MacMillan, 2015) and *Innovation Economics: The Race for Global Advantage* (Yale, 2012).

Doug Brake is a telecommunications policy analyst at ITIF. He specializes in broadband policy, wireless enforcement, and spectrum-sharing mechanisms. He previously served as a research assistant at the Silicon Flatirons Center at the University of Colorado.

Joe Kennedy is a senior fellow at ITIF. For almost 30 years he has worked as an attorney and economist on a wide variety of public policy issues. His previous positions include chief economist with the U.S. Department of Commerce and general counsel for the U.S. Senate Permanent Subcommittee on Investigations. He is president of Kennedy Research, LLC, and the author of *Ending Poverty: Changing Behavior, Guaranteeing Income, and Transforming Government* (Rowman & Littlefield, 2008).

Adams Nager is an economic policy analyst at ITIF. He researches and writes on innovation economics, manufacturing policy, and the importance of STEM education and high-skilled immigration.

L. Val Giddings is a senior fellow at ITIF with three decades of experience in science and regulatory policy relating to biotechnology innovations in agriculture and biomedicine. He is also president and CEO of PrometheusAB, Inc., providing consulting services on biotechnology issues to governments, multilateral organizations, and industry clients. Before founding PrometheusAB, he served eight years as vice president for food and agriculture at the Biotechnology Industry Organization and a decade as a regulatory official with the U.S. Department of Agriculture.

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