

President-Elect Biden's Agenda on Technology and Innovation Policy

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The president-elect's overall approach to technology and innovation policy appears to be formulated to engage the government as an active partner alongside industry in spurring innovation—but also as a tougher regulator of many tech industries and technologies.

KEY TAKEAWAYS

- Perhaps the simplest way to frame the Biden administration's likely program on tech, innovation, and related trade policy is: more spending, more regulation, more multilateralism.
- Biden will likely push for significant increases in public investment in areas like R&D (especially clean energy), rural broadband and closing the digital divide, and education and training—all areas of great need after decades of underinvestment.
- Yet the new administration will likely face significant pressure from progressives to increase taxes on business and impose stringent regulation on technologies and the ICT sector.
- The risk is that these burdens will outweigh the benefits of greater public investment in innovation.

INTRODUCTION

Technological innovation has long been and will continue to be critically important to per-capita income growth, economic competitiveness, and national security. So it is important to examine President-elect Joe Biden's policy agenda through that lens.

This report compiles information from the president-elect's campaign website and policy documents, from the Democratic Party platform, 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 tech and innovation policy, and then examines his policy positions and likely initiatives across 10 issue areas:

- Innovation and Research and Development
- Digital Economy
- Broadband
- Education and Skills
- Taxes
- Regulation
- Trade
- Advanced Manufacturing
- Life Sciences
- Clean Energy Innovation

GENERAL PHILOSOPHY TOWARD TECHNOLOGY AND INNOVATION POLICY

Perhaps the simplest way to frame the Biden administration's likely program on tech, innovation, and related trade policy is: more spending, more regulation, more multilateralism. The Biden White House is likely to push for significant increases in public investment in areas like R&D, rural broadband and closing the digital divide, plus education and training—all areas of great need after decades of government underinvestment. Yet at the same time, the new administration will likely face significant pressures from the progressive wing of the Democratic Party to push for higher taxes on business and more extensive and restrictive regulations on technology and the tech sector, in areas such as privacy, artificial intelligence (AI), automation, Internet platforms, broadband, antitrust, drug pricing, and a host of others. The risk is that these burdens will outweigh the benefits of greater public investment in innovation.

When it comes to addressing the significant array of critical international issues related to tech and innovation, including how to approach competition with China, Internet governance, and cross-border data flows, the Biden administration is likely to engage more with international institutions and work more closely with U.S. allies than the Trump administration. But while the Biden administration is likely to be more assertive than the Obama administration was when it comes to confronting Chinese innovation mercantilism, it is likely to be less assertive than the Trump administration has been. When it comes to immigration, the Biden administration is likely to embrace increases in both high- and low-skill immigration, but also limit H1-B immigration.

Overall, Biden’s approach to technology and innovation policy appears to be formulated to engage the government as an active partner alongside industry in setting a national technology and innovation agenda, as well as a tougher regulator of many technologies and tech industries. Moreover, the Biden agenda is likely to focus its innovation policy on addressing social policy goals, more than competitiveness, productivity, and national security goals. These are likely to include climate change, revitalizing economically distressed communities and regions, and supporting economic opportunities among disadvantaged groups, especially racial minorities.

Overall, the public record of President-elect Biden’s official positions and statements during the campaign provide an outline of the general philosophy that will likely guide his administration on technology and innovation policy:

- The policy approach will likely be formulated to engage government as both an active partner with industry in supporting R&D and domestic production and as a tougher regulator of many technology industries and technology areas, such as privacy.
- The new administration is likely to expand investment to achieve social goals, such as minority opportunity, regional growth, and climate solutions, while potentially cutting other areas, especially defense spending.
- The president-elect has highlighted support for significantly increased public investment in R&D and advanced production.
- He supports massive increases in clean energy R&D funding.
- He has proposed significant increases in public investment in education and skills.
- Biden questions Washington consensus on trade and has focused on being tough with China—but he supports a multilateral approach.
- He embraces the traditional Democratic position on immigration, which has supported increases in both high- and low-skill immigration, but limits on H1-b visas.
- Biden supports greater federal investment in rural broadband infrastructure and closing the digital divide.
- He supports higher taxes on business, particularly large corporations.
- He supports stronger regulations, including on privacy and broadband providers, and more aggressive antitrust enforcement, particularly on large Internet companies.
- He supports significantly limiting Section 230 protections.

INNOVATION AND R&D

Nations are competing for global innovation leadership. Most countries recognize the importance of coordinated national innovation and R&D strategies in driving growth and spurring competitiveness, which explains why more than 50 countries have created national innovation strategies and launched national innovation foundations. However, the U.S. government has been underinvesting in R&D relative to both historical norms and peer nations (on a per capita basis). In fact, the tax incentives that the United States offers to incentivize R&D rank just 24th out of a representative comparison group of 34 nations.¹

While the United States invests the most in research in absolute terms, it has fallen from fifth among OECD nations in R&D intensity (investment in R&D as a share of GDP) in 2000 to eighth in 2019. To restore the federal R&D-to-GDP ratio to levels the country averaged in the 1980s, federal R&D funding would need to increase by about 80 percent, or \$100 billion per year.

President-elect Biden has proposed \$300 billion in additional investment over four years with much of it going to federal R&D, particularly for breakthrough technologies. He has said he would also amend many existing small-business support initiatives to increase their focus on minority- and women-owned enterprises.

Table 1: The president-elect's positions on innovation and R&D policy

Issue	Position
Federal R&D Funding	<ul style="list-style-type: none"> ▪ Calls for \$300 billion in new investment with much of it going to R&D and breakthrough technologies, over four years.²
Defense/Defense R&D Investment	<ul style="list-style-type: none"> ▪ Could cut defense spending even though he “doesn’t foresee major reductions in the U.S. defense budget.”³ However, has called for “major increases in R&D spending,” including at DARPA.⁴
Artificial Intelligence	<ul style="list-style-type: none"> ▪ AI identified as a “breakthrough technology” in line for significantly increased R&D funding.
Quantum Computing	<ul style="list-style-type: none"> ▪ Quantum computing identified as a “breakthrough technology” in line for significantly increased R&D funding.
Semiconductors	<ul style="list-style-type: none"> ▪ Has called for increased U.S. semiconductor manufacturing and supply chain resiliency.⁵ Is likely to support the “CHIPS Act” to help expand U.S. semiconductor production.
Tech Transfer and Commercialization	<ul style="list-style-type: none"> ▪ Calls for a “scaled-up” Small Business Innovation Research (SBIR) program.⁶ Likely to support a range of new initiatives to improve technology transfer and commercialization.
Supporting Start-Ups and Small Businesses	<ul style="list-style-type: none"> ▪ Would implement a new and expanded State Small Business Credit Initiative (SSBCI) that would create a \$10 billion venture capital investment program for minority-owned companies and increase to \$3 billion funds for women-owned companies.⁷
Support Regional Innovation Initiatives	<ul style="list-style-type: none"> ▪ Would create a national network of free incubators and innovation hubs co-located with Small Business Development Centers (SBDCs), libraries, HBCUs, Minority Serving Institutions, community colleges, etc.⁸
Taxpayer Benefits of Federal R&D Funding	<ul style="list-style-type: none"> ▪ Calls for “strengthening existing federal rights” to ensure U.S. government “captures a share of royalties from high-profit products.”⁹ This could entail rolling back the Bayh-Dole Act provisions related to tech commercialization.

INTERNET AND DIGITAL ECONOMY

The digital economy is a key driver of competitiveness, growth, and quality of life. As such, ITIF believes the federal government should pursue policies that foster the development and use of digital technologies among both consumers and organizations. National leadership is especially important because many countries are moving quickly to compete with the United States in emerging technologies such as AI and the Internet of Things.

The Biden administration will need to work with the private sector to accelerate the development and widespread deployment of productivity-enhancing technologies to help transform sectors such as health, education, manufacturing, transportation, and government, as well as grapple with complex policy questions on a wide variety of issues, including data protection, cybersecurity, and digital trade. It should also continue the U.S. tradition of using a light touch to regulate the Internet and online platforms, and aggressively enforce illegal online activity, such as cyberattacks and digital intellectual property (IP) theft.

The public record suggests President-elect Biden will likely push to broaden access to the digital economy and use digital technologies to improve government services, including health care, education, and general government. But at the same time, the new administration will also likely push for stronger regulations in many areas of the digital economy.

Table 2: The president-elect's positions on Internet and digital economy policy

Issue	Position
Cybersecurity	<ul style="list-style-type: none">Has called for “cybersecurity improvements to make smart grids more resilient to attacks.”¹⁰The 2020 Democratic Platform calls for a Biden administration to “maintain American capabilities that can deter cyber threats” and “work with other countries—and the private sector—to protect individuals’ data and defect critical infrastructure.”¹¹
Encryption	<ul style="list-style-type: none">Has taken no position on whether the federal government should limit strong encryption.
Internet Governance	<ul style="list-style-type: none">The 2020 Democratic Platform states, “We will recommit the United States to the principles of an open internet ... and vigorously oppose efforts to digitally silo off countries and populations from the rest of the world.”¹² The Biden administration is likely to make this a strong priority, working not only with our allies but reengaging strongly with international bodies.
Open Data	<ul style="list-style-type: none">Has previously championed open data initiatives, particularly to support cancer research.¹³
Copyright	<ul style="list-style-type: none">The 2020 Democratic Platform states, “We will use all tools at our disposal to take action against countries that steal American intellectual property.”¹⁴ However, the administration is likely to not support stronger domestic government actions to limit digital piracy.
Online Platforms	<ul style="list-style-type: none">Has said that online platforms should do more to prevent the spread of misinformation and hate speech.¹⁵

Issue	Position
	<ul style="list-style-type: none"> <li data-bbox="500 281 1398 342">▪ In an interview, has called for rescinding Section 230 liability protections, saying “Section 230 should be revoked, immediately should be revoked.”¹⁶ <li data-bbox="500 359 1398 514">▪ Biden’s campaign circulated a petition calling on Facebook to remove false, viral information, prevent political candidates and PACs from spreading misinformation through paid ads, and preventing all users, including prominent elected officials, from spreading false information about participating in elections.¹⁷
Data Privacy	<ul style="list-style-type: none"> <li data-bbox="500 550 1398 674">▪ Has said, “We should be worried about the lack of privacy [on tech platforms],” and “we should be setting standards not unlike the Europeans are doing relative to privacy.”¹⁸ In other words, likely to support a strong approach to privacy regulation. <li data-bbox="500 690 1317 751">▪ The 2020 Democratic Platform calls for passing federal data privacy legislation.¹⁹ <li data-bbox="500 768 1398 863">▪ The 2020 Democratic Platform calls for updating the Electronic Communications Privacy Act (ECPA) to give digital content the same privacy protections as physical content.²⁰
Artificial Intelligence	<ul style="list-style-type: none"> <li data-bbox="500 900 1300 961">▪ Has proposed a new \$300 billion investment, including in R&D for breakthrough technologies, including AI.²¹ <li data-bbox="500 978 1390 1039">▪ Has stated, “The technologies of the future, like AI, are bound by laws and ethics, and promote greater shared prosperity and democracy.”²²
E-government	<ul style="list-style-type: none"> <li data-bbox="500 1073 1398 1192">▪ The Biden administration will likely seek increased funding to modernize the federal government through digital technologies, including investing in cybersecurity, cloud computing, mobile-friendly government websites, and open data.

BROADBAND AND TELECOMMUNICATIONS

We live in an information-rich world in which citizens depend on advanced digital networks to connect our smartphones and computers with vital databases and information processing systems in the cloud. ITIF has long highlighted how the opportunities for information technology to deliver improvements in both the economy and quality of life are multiplied by robust broadband networks.²³ Innovation is particularly fast in the mobile world, but continued investment in wireline networks also is important. Broadband and telecommunication policy debates focus on a variety of issues, including the means of managing spectrum rights, the nature of net neutrality regulations, and the transformation of telecommunications subsidies to support broadband.

The public record suggests the Biden administration is likely to push for more regulation of broadband, including on net neutrality and supporting municipally provided broadband, but also support increased investments in closing the digital divide and spurring rural broadband deployment.

Table 3: The president-elect’s positions on broadband and telecommunications policy

Issue	Position
Universal Broadband Infrastructure	<ul style="list-style-type: none">▪ Promises “universal broadband access” to “expand broadband access to every American.”²⁴▪ The campaign has committed to invest \$20 billion in rural broadband as part of a larger infrastructure package.²⁵▪ Plans to triple U.S. Department of Agriculture rural broadband grants and partner with municipal utilities to increase rural broadband coverage.²⁶
Wireless Spectrum and 5G	<ul style="list-style-type: none">▪ Has mentioned 5G as a component of a proposed \$300 billion investment in R&D to expand “our innovative edge” in emerging technologies.²⁷▪ Has mentioned 5G as a tool to expand broadband to every American.²⁸▪ Has not commented on spectrum policy.
Title II and Net Neutrality	<ul style="list-style-type: none">▪ Was reportedly “outraged” by the Trump administration’s reversal of Obama-era net neutrality rules.²⁹▪ The Biden-Sanders Unity Task Force report recommends Democrats restore the FCC’s authority over broadband providers, presumably through Title II of the Communications Act.³⁰▪ The Unity Task Force report calls for enforcement against “blocking, throttling, paid prioritization, or other measures that create artificial scarcity and raise consumer prices.”³¹
Affordability and Broadband Subsidies	<ul style="list-style-type: none">▪ The Biden-Sanders Unity Task Force proposes to support access for low-income Americans by providing “subsidies ... through the Lifeline program.”³²
Broadband Competition and Public-Private Partnerships	<ul style="list-style-type: none">▪ The Biden-Sanders Task Force calls for “action to prevent states from blocking municipalities and rural co-ops from building publicly-owned broadband networks,” and would increase federal support for municipal broadband.³³

EDUCATION AND SKILLS

If America is to succeed in the innovation-powered global economy, more workers will need better education and skills, especially in areas such as science and engineering. Toward that end, increasing STEM skills for Americans (science, technology, engineering, and mathematics) is critical. At the same time, 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 STEM-based foreign workers who wish to pursue their talents in the environment of economic opportunity the United States affords.³⁴

The president-elect’s positions and statements suggest the Biden administration is likely to work to significantly invest in more skills training, particularly focused on women and economically disadvantaged minorities, while supporting more open immigration policies.

Table 4: The president-elect's positions on education and skills policy

Issue	Position
Immigration of High-Skill Foreign Workers	<ul style="list-style-type: none"> ▪ Would work with Congress to reform temporary visas to establish a wage-based allocation process and enforcement mechanisms to ensure they are aligned with the labor market and not used to undermine wages. ▪ Would expand the number of high-skilled visas and eliminate the limits on employment-based visas by country to alleviate long backlogs.³⁵
Support for STEM Education	<ul style="list-style-type: none"> ▪ Would increase access to middle and high school courses in computer science. ▪ Would invest \$5 billion in graduate programs in teaching and health care, and develop internship and career pipelines at major research agencies, centered on minority-serving institutions.³⁶
Supporting Innovation in Education	<ul style="list-style-type: none"> ▪ Would invest in school vocational training and partnerships between high schools, community colleges, and employers to create programs that allow students to earn an industry credential upon high school graduation. ▪ Would increase access to middle and high school courses in computer science. ▪ Would invest \$20 billion in building high-tech labs, facilities, and digital infrastructure at HBCUs and minority serving institutions.
Supporting Minority and Low-Income Students	<ul style="list-style-type: none"> ▪ Would triple funding for Title I, the federal program that funds schools with a high percentage of low-income students, and require districts to use funds to offer educators higher salaries, pay for pre-school, and provide access to rigorous coursework before using the funds for discretionary purposes. ▪ Would create a new program challenging local communities to ensure high schools meet changing demands of the workforce, first prioritizing building schools in low-income and minority communities. ▪ Would make public colleges and universities tuition free for all families with incomes below \$125,000. ▪ Would double the maximum value of Pell grants. ▪ Would more than halve payments on undergraduate federal student loans by reforming the income-based repayment program. ▪ Would invest over \$70 billion into HBCUs and minority-serving institutions to make them more affordable, well-equipped, and innovative.³⁷
Community Colleges	<ul style="list-style-type: none"> ▪ Would provide two years of community college or other high-quality training programs without debt, with the federal government covering 75 percent of the cost and states contributing the remaining obligation. ▪ Would create a new grant program to support community colleges increasing their students' retention and credential completion, and scaling successful programs to help more students. ▪ Would give states financial incentives to foster collaboration between community colleges and community-based organizations to provide support services for students.

Issue	Position
	<ul style="list-style-type: none"> Would establish a federal grant program to help community colleges create emergency grant programs for students with unexpected financial challenges that jeopardize their ability to stay enrolled. Would make a \$50 billion investment in workforce training, including community-college business partnerships and apprenticeships. Would invest \$8 billion to help community colleges improve the health and safety of their facilities.³⁸

TAXES

Governments can encourage more innovation and investment ensuring an effective tax code. A competitive corporate tax, as well as a generous R&D tax credit and expensing for equipment, spur more investment. ITIF has argued that the tax code should promote international competitiveness and encourage innovation by providing incentives for the drivers of productivity and innovation: investment in R&D; new capital equipment, including information and communications technology; and workforce training.

The Tax Cuts and Jobs Act of 2017 (TCJA) did not increase the rate of the R&D tax credit.³⁹ Moreover, starting in 2022, companies will have to write off their research expenditures over five years rather than deduct them immediately. The bill also instituted bonus depreciation that allowed companies to expense in the first year capital equipment expenditures, but this starts to phase out in 2022.

The Biden administration will likely advocate for increased taxes on corporations and high-income individuals and not address these issues in the TCJA.

Table 5: The president-elect's positions on tax policy

Issue	Position
Corporate Tax Rate	<ul style="list-style-type: none"> Would increase corporate tax rate to 28 percent.⁴⁰ The tax would be increased by an additional 10 percent for profits on foreign goods and services that are imported back to the United States. Would impose a 15 percent tax on book income to ensure all companies pay at least some tax.⁴¹
Offshoring Penalties	<ul style="list-style-type: none"> Would deny deductions and expensing write-offs for moving any production overseas that could “plausibly” be done in the United States.⁴²
Made in America Tax Credit	<ul style="list-style-type: none"> Provides a 10 percent tax credit for refurbishing old plants, expanding facilities, moving jobs to the United States, or increasing manufacturing wages.⁴³
Manufacturing Tax Credit	<ul style="list-style-type: none"> \$6 billion three-year provision for firms that invest in communities that experience mass layoffs or the closure of a major government institution.⁴⁴

Issue	Position
R&D Tax Credit.	<ul style="list-style-type: none"> No provision but not likely to support an increase.
Accelerated Depreciation for Research	<ul style="list-style-type: none"> No provision, but not likely to support repeal of provision ending research expensing.
Base Erosion and Profit-Shifting Activity	<ul style="list-style-type: none"> “Will confront global tax secrecy and avoidance, taking on individuals and businesses that stash their profits in tax havens to avoid paying their fair share while tightening anti-inversion rules.”⁴⁵
Digital Services Taxes (DSTs)	<ul style="list-style-type: none"> No provision.
Taxation of Foreign Corporate Income (GILTI)	<ul style="list-style-type: none"> Would double the current minimum tax rate from 10.5 to 21 percent. The tax would be applied country by country.⁴⁶
Pharmaceutical Advertising	<ul style="list-style-type: none"> Would deny a deduction for advertising expenditures.⁴⁷
Tax Expenditures	<ul style="list-style-type: none"> Reduces tax expenditures for fossil-fuel production and commercial real estate.
Innovation Box	<ul style="list-style-type: none"> No provision.
Capital Gains Tax Rate	<ul style="list-style-type: none"> Taxes long-term capital gains and qualified dividends at ordinary rates on income for those households earning \$1 million or more.⁴⁸ Treatment of short-term gains remains the same.
Individual Rate	<ul style="list-style-type: none"> Increases tax rate on household incomes above \$400,000 from 37 percent to 39.6 percent. Limits the value of itemized deductions for taxpayers in tax brackets above 28 percent.⁴⁹
Carried Interest	<ul style="list-style-type: none"> Has previously indicated he would eliminate it.⁵⁰
20 Percent Deduction for Passthrough Firms	<ul style="list-style-type: none"> Would repeal.⁵¹
Social Security	<ul style="list-style-type: none"> Would raise payroll tax from 0 percent to 12.4 percent for wages above \$400,000.⁵²

REGULATION

Designed properly, regulations can spur innovation and productivity by reducing regulatory uncertainty, rewarding beneficial actions, and requiring standards that require innovation to meet. Even when they can't do this, regulations should be designed in ways that limit cost and burdens on innovation. The United States needs smarter regulations, especially for its traded-sector firms. 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 (OIRA) for innovation). Moreover, OIRA should introduce an “international competitiveness screen” into its review of federal regulations.

The Biden administration is likely to reverse a number of the Trump administration’s regulatory roll-backs as well as greenlight Congress to move forward with significant legislative reforms to give competition authorities more powers to conduct antitrust review and enforcement, especially of large tech platforms, while likely stepping up enforcement and bringing more federal antitrust cases.

Table 6: The president-elect’s positions on regulatory policy

Issue	Position
Repeal of Existing Regulations	<ul style="list-style-type: none"> No provision, but unlikely to do much in this area.
OMB Regulatory Budget	<ul style="list-style-type: none"> No provision, but unlikely to support this.
Streamlining Infrastructure Regulation	<ul style="list-style-type: none"> No provision, but unlikely to support this.
Independent Contractors	<ul style="list-style-type: none"> “Will enact legislation that makes worker misclassification a substantive violation of law under all federal labor, employment, and tax laws with additional penalties beyond those imposed for other violations.”⁵³ Will likely push to make it harder for companies to employ “gig” workers as independent contractors.
Antitrust	<ul style="list-style-type: none"> Would aggressively use antitrust laws to fight large mergers, including in the hospital, insurance, pharmaceutical, tech, and other industries.⁵⁴ Likely to shift away from the consumer welfare standard to incorporate broader criteria into antitrust decisions, including the impact on labor, underserved communities, political power, and racial equality.⁵⁵ Would review all mergers and acquisitions since Trump took office.⁵⁶ Likely to subject large technology firms to increased antitrust scrutiny, including potentially structural separation and breakups.

TRADE

Trade policy has played a much larger role in U.S. economic and foreign policy over the last four years. It is particularly important to innovation policy given much of the U.S. economy is based on innovation, wherein firms have relatively high fixed costs and lower marginal costs. Trade policy plays an essential supporting role by providing needed economies of scale through open and fair access to global markets, which spurs U.S. productivity and innovation. ITIF believes the United States must play a leadership role in defending an open and rules-based trading system, while demanding rigorous enforcement of trade commitments, and in the case of countries such as China, engaging in reciprocity and other actions to limit their unfairly obtained advantage.

U.S. trade policy is undergoing major and long overdue changes, but it's unclear what the end result will be, whether it's reforming the World Trade Organization (WTO), effectively addressing China's unfair trade challenge, or enacting new and better rules and agreements for modern trade with the United States' likeminded trade partners.

The Biden administration will likely to be slow to embrace significant market opening through trade deals, but it will likely work to strengthen the WTO to make it a more effective organization to limit trade mercantilism. Trade policy will likely be focused on worker rights and the environment and an increase in domestic Buy America provisions. And China policy, while it is likely to be less assertive than Trump's, will likely be guided by a more coherent overall strategy.

Table 7: The president-elect's positions on trade policy

Issue	Position
General Approach	<ul style="list-style-type: none"> Commits to work with allies on new trade agreements, which would include stronger rules of origin and climate change commitments.⁵⁷ However prioritizes major domestic investments before pursuing new trade agreements.
Trans-Pacific Partnership	<ul style="list-style-type: none"> Is open to rejoining if the United States could renegotiate parts of the agreement, likely including currency manipulation, labor and environment standards and ISDS provisions.⁵⁸
WTO	<ul style="list-style-type: none"> No mention, but has generally favored working with partners at WTO.
Trade Enforcement	<ul style="list-style-type: none"> Commits to develop a comprehensive strategy to “aggressively” enforce domestic trade laws.⁵⁹
China-Specific Trade Policy	<ul style="list-style-type: none"> Is critical of the Phase 1 U.S.-China deal arguing that it doesn't deal with key issues such as industrial overcapacity, cybertheft, and the role of state-owned enterprises, many of which he says he will address.⁶⁰
Export Control Policy	<ul style="list-style-type: none"> No mention, but is likely to be less restrictive towards China than the Trump administration, including less likely to pursue restrictive policies on companies like TikTok and exports to Huawei.
Export-Import (EXIM) Bank	<ul style="list-style-type: none"> Supported the EXIM Bank during the Obama administration. His only campaign mention is he would prohibit funding for coal-fired power plants.⁶¹ However, likely to support EXIM expansion.
Trade Adjustment Assistance (TAA)	<ul style="list-style-type: none"> No specific mention of TAA, but Biden supports greater funding for broader workforce skills development programs.⁶²
Digital Free Trade	<ul style="list-style-type: none"> No mention, but likely to push for stronger cross-border trade provisions.
Buy American	<ul style="list-style-type: none"> Strongly supports Buy American provisions (including via a \$400 billion procurement investment proposal) and will require federally funded infrastructure projects to source materials in the United States.⁶³ Commits to tighten domestic content rules, limit waivers to Buy American requirements, and extend Buy American provisions to other forms of government assistance, such as publicly funded R&D.⁶⁴ Has stated, “When we spend taxpayer money, we should buy American products and support American jobs.”⁶⁵ And will

Issue	Position
	likely support stronger domestic purchasing requirements for defense purchases.
Tariff Policy	<ul style="list-style-type: none"> Will review existing Section 232 tariffs and other tariff increases. However, is open to using tariffs as part of new trade strategy.⁶⁶
Currency Manipulation	<ul style="list-style-type: none"> Opposes efforts to manipulate currency as a way of gaining an unfair trade advantage. Supports new transparency, consultation, and enforcement provisions in trade agreements.⁶⁷
Clean/Green Trade	<ul style="list-style-type: none"> Commits to impose carbon adjustment fees or quotas on carbon-intensive goods from countries that are failing to meet their climate commitments. Will include Paris climate commitments as part of future trade agreements.⁶⁸
CFIUS	<ul style="list-style-type: none"> The Biden administration will likely continue the Trump administration's relatively tough reviews of Chinese FDI to the United States, but will likely be open to other nation's U.S. FDI.

ADVANCED MANUFACTURING

A robust advanced-manufacturing sector remains critical to the health of the U.S. economy. Yet, U.S. manufacturing has been struggling. Real manufacturing value added declined 13 percent from 2007 to 2019. And, when controlling for the statistical overstatement of output growth in the computer industry, it fell by 20 percent. Likewise, manufacturing sector productivity has stagnated.

The United States needs to develop a serious national manufacturing strategy, and implement much better tax, talent, technology, and trade policies (the “4 Ts”) to help manufacturing and other traded sectors, like software and information technology, thrive and remain globally competitive.

Table 8: The president-elect's positions on advanced manufacturing policy

Issue	Position
Advanced Manufacturing Strategy	<ul style="list-style-type: none"> Calls for development of a comprehensive “manufacturing and innovation strategy.”⁶⁹
Manufacturing USA	<ul style="list-style-type: none"> No stated plans to expand Manufacturing USA network. However, proposes more than 50 communities to be chosen as technology hubs that would build on Manufacturing USA, combining new federal R&D investment with workforce development and business participation.⁷⁰
Manufacturing Extension Partnership	<ul style="list-style-type: none"> Calls for quadrupling NIST MEP funding (which would bring it close to \$600 million annually).⁷¹

Issue	Position
Regional Manufacturing Support	<ul style="list-style-type: none"> Expands “Manufacturing Innovation Partnerships” linking manufacturing institutes, universities and colleges, employers and unions, and state and local governments.⁷²
Provide Capital to Small and Medium-Sized Enterprises (SME) Manufacturers	<ul style="list-style-type: none"> Establishes a credit facility to supply capital to SME manufacturers to facilitate plant modernization and energy efficiency.⁷³
Tax-Related Manufacturing Incentives	<ul style="list-style-type: none"> Would pass a “Manufacturing Tax Credit” that promotes revitalizing, renovating, or modernizing existing or recently closed manufactured facilities.⁷⁴
Apprenticeships and Workforce Training	<ul style="list-style-type: none"> Would expand registered apprenticeship training programs such as the Industrial Manufacturing Technician Apprenticeship program.⁷⁵
Opportunity Zones	<ul style="list-style-type: none"> Supports Opportunity Zones approach, but calls for reforms, including mandatory impact reporting and adjustments to achieve greater racial equality.⁷⁶

LIFE SCIENCES

While the United States was a global also-ran in life-sciences innovation well into the 1980s, a series of considered, bipartisan public policies introduced over the decades since have turned America into the world’s life-sciences innovation leader. These policies have included significant investment in life-sciences basic research, robust IP protections, effective technology-transfer policies, an effective regulatory environment, investment incentives, and, importantly, drug-pricing policies that enable companies to invest in high-risk drug development.

But despite U.S. strengths in innovation, manufacturing has faltered. In fact, from 2009 to 2018, real U.S. value-added output in pharmaceutical and medicines manufacturing fell by nearly one-third, while the rest of U.S. manufacturing increased by 23 percent.

Moreover, global competition in the sector is intensifying rapidly, including from China, meaning that if the United States is serious about maximizing its biopharmaceutical competitiveness, Washington needs to put in place a robust national biopharmaceutical competitiveness strategy.

President-elect Biden has called for significantly increased biomedical R&D expenditures, but he has said he would also push for drug price control policies and other regulatory changes that would reduce drug companies’ revenues that could be reinvested in research to produce future generations of drugs and other innovations.

Table 9: The president-elect's positions on life-sciences policy

Issue	Position
Combatting COVID-19	<ul style="list-style-type: none"> Would see to it the Biomedical Advanced Research and Development Authority (BARDA) has necessary resources to ensure adequate production of COVID-19 therapeutics and vaccines.⁷⁷ Would introduce a comprehensive national strategy to address COVID-19, including ensuring adequate availability of testing kits nationwide and mandating mask-wearing.⁷⁸
National Institutes of Health Funding	<ul style="list-style-type: none"> As part of proposal for \$300 billion in innovation funding, calls for “major increases” in NIH funding, but hasn’t enumerated a specific amount.⁷⁹ Biden has also proposed an Advanced Research Projects Agency for Health (ARPA-H)
Drug Pricing	<ul style="list-style-type: none"> Proposes, for Medicare programs, limiting price increases for all brand, biotech, and “abusively priced generic drugs” to inflation.⁸⁰ Is likely to support broad restrictions on drug pricing.
Bayh-Dole Act	<ul style="list-style-type: none"> Likely to support restrictions on the Bayh-Dole Act, including reducing the incentives to commercialize federally-funded research by giving the federal government increased “march-in” rights.

CLEAN ENERGY INNOVATION

It will be impossible to effectively address climate change without better clean energy technologies, and these will likely not be forthcoming without robust national clean energy innovation policies.

Based on his official positions and public statements, President-elect Biden is likely to make fighting climate change a centerpiece of his administration. He has proposed that energy R&D funding be increased substantially as part of an overall expenditure of \$300 billion on R&D over four years. He has also called for the United States to achieve net-zero emissions by 2050, and to decarbonize its electricity grid by 2035. Biden includes carbon capture, utilization, and storage (CCUS) among his technology priorities, rejecting calls from some supporters of Sen. Bernie Sanders (I-VT) and others to eliminate fossil fuel use altogether.

Table 10: The president-elect's positions on clean energy innovation policy

Issue	Position
General Approach to Energy and Climate Policy	<ul style="list-style-type: none"> Has called for achieving net-zero U.S. emissions by 2050, supported by \$2 trillion of investment in clean energy and green infrastructure over his first term.⁸¹ Has promoted innovation in a wide range of low-carbon energy technologies, and highlights the need for solutions for hard-to-abate sectors and negative emissions.⁸²

Issue	Position
Federal Investment in Energy R&D	<ul style="list-style-type: none"> ▪ Has proposed \$300 billion over four years for public R&D spending, including for clean energy.⁸³ ▪ Has called for increasing funding for DOE laboratories and associated regional innovation ecosystems.⁸⁴ ▪ Has recommended creating ARPA-C (i.e., “climate”), an initiative targeting “game-changing technologies to help America achieve our 100% clean energy target.”⁸⁵
Federal Support for Clean Energy Commercialization and Deployment	<ul style="list-style-type: none"> ▪ Has advocated “demand-pull” policies, including clean energy tax incentives, a price on carbon, and a technology-neutral energy efficiency and clean electricity standard.⁸⁶ ▪ Has argued for using federal procurement to drive demand for clean energy technologies as part of additional \$400 billion spending government-wide, particularly for electric vehicles.⁸⁷
Innovation-Inducing Sector-Specific Policies	<ul style="list-style-type: none"> ▪ Has defined emission-reduction goals for some major sectors, including decarbonizing the electric grid by 2035 and reducing building emissions by 50 percent.⁸⁸ ▪ Has advocated accelerating progress in key technologies, such as CCUS, that are needed to decarbonize all sectors of the economy, including industry and agriculture.⁸⁹
Incorporating Environmental Justice into Clean Energy Innovation	<ul style="list-style-type: none"> ▪ Has committed to ensuring disadvantaged communities receive 40 percent of benefits from clean energy and green infrastructure investments.⁹⁰
Fostering Innovation in Domestic Clean Energy Supply Chains and Manufacturing	<ul style="list-style-type: none"> ▪ Has proposed \$400 billion investment over 10 years to create industries of the future to achieve net-zero emissions.⁹¹ ▪ Has supported public R&D to accelerate innovation in clean energy supply-chain resilience.⁹² ▪ Has promoted using public-private partnerships to boost manufacturing capacity, such as the Manufacturing USA Innovation Institutes.⁹³ ▪ Has called for developing a national strategy for low-carbon manufacturing in every state.⁹⁴
U.S. Role in Global Clean Energy Innovation	<ul style="list-style-type: none"> ▪ Has encouraged nations participating in Mission Innovation to quadruple their clean energy R&D investments relative to the original baseline.⁹⁵ ▪ Has called for imposing carbon adjustment fees for imports from countries that do not meet their international climate obligations.⁹⁶

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About ITIF

The Information Technology and Innovation Foundation (ITIF) is a nonprofit, nonpartisan research and educational institute focusing on the intersection of technological innovation and public policy. Recognized as the world's leading science and technology think tank, ITIF's mission is to formulate and promote policy solutions that accelerate innovation and boost productivity to spur growth, opportunity, and progress.

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