

At a Glance

H.R. 4609, National Institute of Standards and Technology for the Future Act of 2021

As ordered reported by the House Committee on Science, Space, and Technology on July 27, 2021

By Fiscal Year, Millions of Dollars	2022	2022-2026	2022-2031
Direct Spending (Outlays)	*	*	*
Revenues	0	0	0
Increase or Decrease (-) in the Deficit	*	*	*
Spending Subject to Appropriation (Outlays)	161	5,841	6,953
Statutory pay-as-you-go procedures apply?	Yes	Mandate Effects	
Increases on-budget deficits in any of the four consecutive 10-year periods beginning in 2032?	< \$5 billion	Contains intergovernmental mandate?	No
		Contains private-sector mandate?	No

* = between zero and \$500,000.

The bill would

- Authorize the appropriation of specific amounts for each year from 2022 through 2026 for programs implemented by the National Institute of Standards and Technology (NIST)

Estimated budgetary effects would mainly stem from

- Spending of the authorized amounts by NIST
- Spending of interest accrued in the NIST Facilities Modernization Fund without further appropriation

Detailed estimate begins on the next page.



Bill Summary

H.R. 4609 would reauthorize the National Institute of Standards and Technology (NIST) and would authorize the appropriation of specific amounts in each year from 2022 through 2026. The bill also would codify NIST’s research programs in engineering biology, greenhouse gas emissions, and artificial intelligence, among others, and establish the Facilities Modernization Fund.

Estimated Federal Cost

The estimated budgetary effect of H.R. 4609 is shown in Table 1. The costs of the legislation fall within budget function 370 (commerce and housing credit).

Table 1.
Estimated Budgetary Effects of H.R. 4609

	By Fiscal Year, Millions of Dollars					2022-2026
	2022	2023	2024	2025	2026	
National Institute of Standards and Technology						
Authorization ^a	395	1,519	1,596	1,678	1,765	6,953
Estimated Outlays	161	1,014	1,405	1,562	1,699	5,841

Enacting the bill would increase direct spending by less than \$500,000 in every year and over the 2022-2031 period.

a. In 2021, the Congress provided a total of \$1.0 billion for National Institute of Standards and Technology. Because CBO estimates budgetary effects on an annualized basis, in 2022 CBO assumes that the same amount will be available for those programs under the current continuing resolution (Public Law 117-70). The amount shown in 2022 reflects the difference between the authorized amount and the amount annualized under the continuing resolution.

Basis of Estimate

For this estimate, CBO assumes that the bill will be enacted in fiscal year 2022, that the estimated amounts will be appropriated each year, and that spending will follow historical patterns.

Spending Subject to Appropriation

H.R. 4609 would authorize the appropriation of specific amounts each year, totaling \$8.0 billion for NIST over the 2022-2026 period. In 2021, the Congress provided a total of \$1.0 billion for the programs that would be authorized by the bill. Because CBO estimates budgetary effects on an annualized basis, in 2022 CBO assumes that the same amount will be available for those programs under the current continuing resolution (Public Law 117-70). Thus, our estimate for fiscal year 2022 reflects the difference between the authorized amounts and the amount annualized under the continuing resolution for each program. On that basis, CBO estimates that implementing the bill would cost \$5.8 billion over the 2022-2026 period (see Table 2) and about \$1.1 billion after 2026.



Table 2.
Estimated Increases in Spending Subject to Appropriation Under H.R. 4609

	By Fiscal Year, Millions of Dollars					2022-2026
	2022	2023	2024	2025	2026	
Scientific and Technical Research and Services^a						
Authorization	128	979	1,048	1,121	1,199	4,475
Estimated Outlays	98	781	1,015	1,103	1,180	4,177
Construction of Research Facilities^a						
Authorization	80	200	200	200	200	880
Estimated Outlays	10	35	65	110	161	381
Industrial Technology Services^a						
Authorization	165	340	348	357	366	1,576
Estimated Outlays	49	189	316	349	358	1,261
Surfside Investigation						
Authorization	22	0	0	0	0	22
Estimated Outlays	4	9	9	0	0	22
Total Changes						
Authorization	395	1,519	1,596	1,678	1,765	6,953
Estimated Outlays	161	1,014	1,405	1,562	1,699	5,841

a. In 2021, the Congress provided a total of \$1.0 billion for these programs. Because CBO estimates budgetary effects on an annualized basis, in 2022 CBO assumes that the same amount will be available under the current continuing resolution (Public Law 117-70). The amounts shown in 2022 reflect the difference between the authorized amount and the amount annualized under the continuing resolution for each program.

Scientific and Technical Research and Services. H.R. 4609 would authorize appropriations totaling \$5.3 billion over the 2022-2026 period for scientific and technical research and services. In 2021, NIST received \$788 million to support laboratory research in fields such as quantum science, artificial intelligence, and microelectronics. After accounting for the continuing resolution, CBO estimates that implementing this provision would cost \$4.2 billion over the 2022-2026 period and \$298 million after 2026.

Construction of Research Facilities. H.R. 4609 would authorize appropriations totaling \$960 million over the 2022-2026 period for the construction, repair, and maintenance of research facilities. That amount consists of \$940 million specified in section 101 and another \$20 million in section 301 for the Facilities Modernization Fund for 2022. In 2021, NIST received \$80 million for construction activities. After accounting for the continuing resolution, CBO estimates that implementing this provision would cost \$381 million over the 2022-2026 period and \$499 million after 2026. From those authorized amounts, the bill would set aside \$80 million annually for capital projects to modernize facilities on NIST campuses. The effects of that provision on direct spending are discussed below.

Industrial Technology Services. H.R. 4609 would authorize appropriations totaling \$1.7 billion over the 2022-2026 period for industrial technology services. In 2021, NIST



received \$167 million for that purpose. After accounting for the continuing resolution, CBO estimates that implementing this provision would cost \$1.3 billion over the 2022-2026 period and \$315 million after 2026. Those funds would support the Manufacturing USA and Hollings Manufacturing Extension Partnership programs.

Surfside Investigation. The bill would authorize the appropriation of \$22 million in 2022 to investigate a building that collapsed in Surfside, Florida, on June 24, 2021. CBO estimates that implementing this provision would cost \$22 million over the 2022-2026 period.

Direct Spending

H.R. 4609 would set aside \$80 million in discretionary funds annually over the 2022-2026 period in the Facilities Modernization Fund to pay for capital projects on NIST campuses. CBO anticipates that each year's unobligated balances would be invested in Treasury securities and that the earnings would be spent without further appropriation on capital projects. CBO estimates that NIST would spend less than \$500,000 in accrued interest over the 2022-2031 period.

Pay-As-You-Go Considerations

The Statutory Pay-As-You-Go Act of 2010 establishes budget-reporting and enforcement procedures for legislation affecting direct spending or revenues. The net changes in outlays that are subject to those pay-as-you-go procedures would be less than \$500,000 in every year and over the 2022-2031 period.

Increase in Long-Term Deficits

CBO estimates that enacting H.R. 4609 would not increase on-budget deficits by more than \$5 billion in any of the four consecutive 10-year periods beginning in 2032.

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