

H.R. 4091, ARPA-E Reauthorization Act of 2019

As ordered reported by the House Committee on Science, Space, and Technology on October 17, 2019

By Fiscal Year, Millions of Dollars	2020	2020-2024	2020-2029
Direct Spending (Outlays)	0	0	0
Revenues	0	0	0
Increase in the Deficit	0	0	0
Spending Subject to Appropriation (Outlays)	2	690	2,510
Statutory pay-as-you-go procedures apply?	No	Mandate Effects	
Increases on-budget deficits in any of the four consecutive 10-year periods beginning in 2030?	No	Contains intergovernmental mandate?	No
		Contains private-sector mandate?	No

H.R. 4091 would reauthorize activities of the Advanced Research Projects Agency-Energy (ARPA-E), an agency tasked with researching and developing transformative energy technologies, through fiscal year 2024. The bill also would amend ARPA-E's requirements for submitting annual reports and strategic vision roadmaps to the Congress.

H.R. 4091 would authorize appropriations totaling \$2.9 billion over the 2020-2024 period. In 2019, the Congress appropriated \$366 million for ARPA-E. Because CBO scores continuing resolutions on an annualized basis, in 2020 CBO assumes that the same amount of funds will be available under the current continuing resolution (Public Law 116-59). As a result, CBO estimates that H.R. 4091 would authorize an increase in spending subject to appropriation in 2020 of \$62 million, the difference between the authorized amount and the annualized amount under the continuing resolution. Based on historical spending patterns, and assuming appropriation of the authorized and necessary amounts, CBO estimates that implementing H.R. 4091 would cost \$690 million over the 2020-2024 period and \$1.8 billion after 2024.

The costs of the legislation (detailed in Table 1) would fall within budget function 270 (energy).

**Table 1.
Estimated Increases in Spending Subject to Appropriation Under H.R. 4091**

	By Fiscal Year, Millions of Dollars										2020-2024	2020-2029
	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029		
Authorization ^a	62	497	567	651	750	0	0	0	0	0	2,527	2,527
Estimated Outlays	2	21	79	197	391	536	550	463	230	41	690	2,510

a. H.R. 4091 would authorize the appropriation of \$428 million in 2020 for ARPA-E activities. However, CBO estimates that \$366 million has been allocated on an annualized basis from funds made available under the continuing resolution (Public Law 116-59), which provided appropriations through November 21, 2019. Thus, the estimated authorization for 2020 (\$62 million) is equal to the specified amount (\$428 million) minus the annualized amount from the continuing resolution (\$366 million).

The CBO staff contact for this estimate is Aaron Krupkin. The estimate was reviewed by H. Samuel Papenfuss, Deputy Assistant Director for Budget Analysis.