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ENERGY TECHNOLOGY MATURATION ACT OF 2019

AUGUST 16, 2019.—Ordered to be printed

Filed, under authority of the order of the Senate of August 1, 2019

Ms. MURKOWSKI, from the Committee on Energy and Natural Resources, submitted the following

R E P O R T

[To accompany S. 1286]

[Including cost estimate of the Congressional Budget Office]

The Committee on Energy and Natural Resources, to which was referred the bill (S. 1286) to amend the Energy Policy Act of 2005 to facilitate the commercialization of energy and related technologies developed at Department of Energy facilities with promising commercial potential, having considered the same, reports favorably thereon without amendment, and recommends that the bill do pass.

PURPOSE

The purpose of S. 1286 is to amend the Energy Policy Act of 2005 (EPAc 2005, Public Law 109–58) to facilitate the commercialization of energy and related technologies developed at Department of Energy (DOE or Department) facilities with promising commercial potential.

BACKGROUND AND NEED

Congress directed technology transfer to be a part of the mission of Federal Government research agencies beginning in the 1980s. Since that time, DOE has led the Federal Government in transitioning technologies to outside entities for commercialization through the use of a variety of mechanisms, including Cooperative Research and Development Agreements, Strategic Partnership Project Agreements, and the licensing of intellectual property.

Improving the ability to transition technologies from DOE to the private sector continues to be a focus of Congress and the Department. S. 1286 provides another means to enable national laboratories to work with the private sector, and especially small businesses, to commercialize innovative energy technologies.

LEGISLATIVE HISTORY

S. 1286 was introduced by Senators Heinrich, Gardner, Manchin, Durbin, and Harris on May 2, 2019. Senator Bennet was added as a cosponsor on May 7, 2019.

An identical bill, H.R. 2495, was introduced in the House of Representatives by Representative Haaland on May 3, 2019, and referred to the Committee on Science, Space, and Technology, and the Committee on Armed Services.

In the 115th Congress, Senator Heinrich introduced similar legislation, S. 1799, on September 12, 2017. The Subcommittee on Energy conducted a hearing on S. 1799 on October 3, 2017 (S. Hrg. 115–318). The Committee on Energy and Natural Resources met in open business session on March 8, 2018, and ordered S. 1799 favorably reported (S. Rept. 115–252).

Companion legislation, H.R. 3750, was introduced by Representative Grisham in the House of Representatives on September 12, 2017, and referred to the Science, Space, and Technology Committee, as well as the Armed Services Committee.

The Committee on Energy and Natural Resources met in open business session on July 16, 2019, and ordered S. 1286 favorably reported.

COMMITTEE RECOMMENDATION

The Senate Committee on Energy and Natural Resources, in open business session on July 16, 2019, by a majority voice vote of a quorum present, recommends that the Senate pass S. 1286. Senator Lee asked to be recorded as voting no.

SECTION-BY-SECTION ANALYSIS

Section 1. Short title

Section 1 sets forth a short title for the bill.

Sec. 2. Energy technology maturation program

Section 2(a) amends Title X of EPCA 2005 by adding a new section 1012 at the end.

The new section 1012(a) provides definitions.

The new section 1012(b) directs the Secretary to establish an “Energy Technology Maturation Program” to facilitate the commercialization of energy and related technologies that exhibit promising commercial potential and are developed at DOE facilities.

The new section 1012(c) requires the Secretary to use program funding for specific purposes, including to carry out additional development activities to advance the state of the technology, and to support the cooperative development of a technology for a specific commercial application.

The new section 1012(d) sets forth requirements for program applications; permits DOE facilities to submit applications for more

than one project; and directs the Secretary to develop criteria for evaluating projects and give priority to projects submitted by partnerships between a Department facility and a small business.

The new section 1012(e) establishes limits on the funding amounts provided to a recipient.

The new section 1012(f) requires the Secretary to determine cost-sharing requirements of the program in accordance with section 988 of the underlying Act.

The new section 1012(g) authorizes the Secretary to carry out the program with funds in the Energy Technology Commercialization Fund established under section 1001(e) or other funds made available to support technology transfer within the Department.

The new section 1012(h) requires the Secretary to include a description of the results of the projects carried out under the program in the annual report required under section 1001(g)(2) of EAct 2005.

Section 2(b) of the bill amends the table of contents of EAct 2005 to reflect the addition of the new section 1012.

COST AND BUDGETARY CONSIDERATIONS

The following estimate of the costs of this measure has been provided by the Congressional Budget Office:

S. 1286, Energy Technology Maturation Act of 2019			
As ordered reported on July 16, 2019			
By Fiscal Year, Millions of Dollars	2019	2019-2024	2019-2029
Direct Spending (Outlays)	0	0	0
Revenues	0	0	0
Increase or Decrease (-) in the Deficit	0	0	0
Spending Subject to Appropriation (Outlays)	0	*	n.e.
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
n.e. not estimated; * = between zero and \$500,000.			

S. 1286 would direct the Department of Energy (DOE) to establish a program to promote the commercialization of energy and related technologies that are developed at department facilities such as the National Laboratories. The bill would authorize DOE to use amounts available under the Technology Commercialization Fund (TCF) to carry out the program. That fund receives 0.9 percent of the total amount appropriated annually to DOE for applied research, development, demonstration, and commercial application of energy-related technologies.

CBO estimates that implementing S. 1286 would have no significant effect on the federal budget because the bill's requirements are largely consistent with existing activities funded under the

TCF. In 2019, DOE used roughly \$27 million from the fund for commercialization activities.

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

REGULATORY IMPACT EVALUATION

In compliance with paragraph 11(b) of rule XXVI of the Standing Rules of the Senate, the Committee makes the following evaluation of the regulatory impact which would be incurred in carrying out S. 1286. The bill is not a regulatory measure in the sense of imposing Government-established standards or significant economic responsibilities on private individuals and businesses.

No personal information would be collected in administering the program. Therefore, there would be no impact on personal privacy.

Little, if any, additional paperwork would result from the enactment of S. 1286, as ordered reported.

CONGRESSIONALLY DIRECTED SPENDING

S. 1286, as ordered reported, does not contain any congressionally directed spending items, limited tax benefits, or limited tariff benefits as defined in rule XLIV of the Standing Rules of the Senate.

EXECUTIVE COMMUNICATIONS

The testimony provided by the Department of Energy at the October 3, 2017, hearing on S. 1799, similar legislation to S. 1286, follows:

TESTIMONY OF DEPUTY GENERAL COUNSEL BERNARD MCNAMEE, U.S. DEPARTMENT OF ENERGY

S. 1799, Energy Technology Maturation Act of 2017

As a science agency, the Department of Energy plays an important role in the innovation economy. DOE's 17 National Laboratories engage in research that expands the frontiers of scientific knowledge and generates new technologies that address the Nation's greatest energy challenges.

Accelerating the transition of technologies from the laboratory bench to the marketplace is an important component of increasing America's economic prosperity and energy security. This mission is the focus of the Department of Energy's Office of Technology Transitions, which oversees the technology transfer programs across the National Laboratories, including industry and other stakeholder engagement for the purpose of private sector access to lab-developed technologies and capabilities for the purpose of moving these to the marketplace.

DOE-funded energy R&D will continue to prioritize early-stage R&D where the federal role is strongest and reflect an increased reliance on the private sector to fund later-stage research, development and commercialization of energy technologies. DOE is actively working with the Na-

tional Laboratories to reduce barriers to industry engagement with the laboratories to accelerate energy innovation in America. DOE has made it a priority to strengthen the engagement between National Laboratories and industry and other partners.

In response to investors and corporate partners, the DOE Office of Technology Transitions and its recently launched Energy Investor Center are streamlining industry-lab connections and access with a broad strategy of both live interaction through workshops and other events and with web-based tools to increase, improve and integrate information flow through the Lab Partnering Service.

DOE currently uses its Technology Commercialization Fund (TCF), to assist the private sector increase the commercial impact and number of National Laboratory-developed energy technologies transitioned into commercial development. Just last month the Department announced \$19.7 million in funding to help businesses move promising energy technologies from DOE's National Laboratories to the marketplace. This funding supported through the Office of Technology Transitions' TCF—which requires that government funds be matched by private sector capital—will support 54 projects across 12 National Laboratories involving more than 30 private-sector partners.

Through these efforts, DOE is fostering an environment that promotes responsible investment, increased efficiency and development of new technologies, as well as predictability and ease of access by the private sector to the National Laboratories and Facilities.

I look forward to continuing our dialogue on how to bring to market National Lab technologies.

CHANGES IN EXISTING LAW

In compliance with paragraph 12 of rule XXVI of the Standing Rules of the Senate, the changes in existing law made by the original bill, as reported, are shown as follows (existing law proposed to be omitted is enclosed in black brackets, new matter is printed in italic, existing law in which no change is proposed is shown in roman):

THE ENERGY POLICY ACT OF 2005

PUBLIC LAW 109–58, AS AMENDED

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SECTION 1. SHORT TITLE; TABLE OF CONTENTS.

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TITLE X—DEPARTMENT OF ENERGY MANAGEMENT

- Sec. 1001. Improved technology transfer of energy technologies.
- Sec. 1002. Technology Infrastructure Program.
- Sec. 1003. Small business advocacy and assistance.
- Sec. 1004. Outreach.
- Sec. 1005. Relationship to other laws.

Sec. 1006. Improved coordination and management of civilian science and technology programs.
 Sec. 1007. Other transactions authority.
 Sec. 1008. Prizes for achievement in grand challenges of science and technology.
 Sec. 1009. Technical corrections.
 Sec. 1010. University collaboration.
 Sec. 1011. Sense of Congress.
 Sec. 1012. Energy Technology Maturation Program.

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TITLE X—DEPARTMENT OF ENERGY MANAGEMENT

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SEC. 1011. SENSE OF CONGRESS.

It is the sense of Congress that—

(1) the Secretary should develop and implement more stringent procurement and inventory controls, including controls on the purchase card program, to prevent waste, fraud, and abuse of taxpayer funds by employees and contractors of the Department; and

(2) the Department's Inspector General should continue to closely review purchase card purchases and other procurement and inventory practices at the Department.

SEC. 1012. ENERGY TECHNOLOGY MATURATION PROGRAM.

(a) *DEFINITIONS.*—*In this section:*

“(1) *DEPARTMENT FACILITY.*—*The term “Department facility” includes—*

“(A) *a National Laboratory;*

“(B) *any plant or site of the Department (such as the Kansas City National Security Campus, the Nevada National Security Site, the Pantex Plant, and the Y-12 National Security Complex); and*

“(C) *any partnership of entities described in subparagraphs (A) and (B).*

“(2) *PROGRAM.*—*The term ‘program’ means the Energy Technology Maturation Program established under subsection (b).*

(b) *ESTABLISHMENT.*—*The Secretary shall establish a program, to be known as the “Energy Technology Maturation Program”, under which the Secretary shall provide funding to Department facilities to facilitate the commercialization of energy and related technologies that—*

(1) *exhibit promising commercial potential; and*

(2) *are developed at Department facilities.*

(c) *USE OF FUNDS.*—*A Department facility shall use funding provided under the program—*

(1) *to carry out additional development activities on any technology developed at the Department facility to advance the state of the technology to the degree that a private sector partner would be interested in supporting commercialization of the technology; or*

(2) *in any case in which a private sector partner has been identified and the identified private sector partner has executed or will execute a technology partnership agreement, to support cooperative development of a technology developed at the Department facility for a specific commercial application of the technology.*

(d) *APPLICATIONS.*—

(1) *IN GENERAL.*—To be eligible to receive funding under the program, a Department facility shall submit to the Secretary an application at such time, in such manner, and containing such information as the Secretary may require.

(2) *INCLUSIONS.*—An application under this subsection shall—

(A) include a description of—

(i) the potential impact on markets if the applicable technology is successfully commercialized;

(ii) the intended accomplishments of the project proposed to be carried out using the funding with respect to advancing the maturity and commercial potential of the applicable technology; and

(iii) a project plan, including a description of each activity required to be carried out to accomplish the specific objectives of the project; and

(B) demonstrate to the satisfaction of the Secretary that each Department facility and private sector partner involved in the proposed project, and any other resource required to carry out the project, is qualified and capable of successfully completing, and is available to complete, the project, including a description of the roles and responsibilities proposed to be carried out.

(3) *MULTIPLE PROJECTS.*—A Department facility may submit to the Secretary an application for 1 or more technology maturation projects under the program.

(4) *APPROVAL BY SECRETARY.*—

(A) *IN GENERAL.*—The Secretary shall develop criteria for evaluating applications under this subsection, which may include—

(i) the potential that a proposed technology will result in a commercially successful product within a reasonable timeframe;

(ii) the relative maturity of a proposed technology for commercial application; and

(iii) the proposed technical approach and capability of the Department facilities and private sector partners to successfully implement a project.

(B) *PRIORITY.*—In selecting applicants to receive funding under the program, the Secretary shall give priority to an application submitted by a partnership between—

(i) a Department facility; and

(ii) a small business concern.

(e) *AMOUNT OF FUNDING.*—The amount provided to a recipient for a technology maturation project funded under the program shall be not more than—

(1) \$150,000 for an activity described in subsection (c)(1); and

(2) \$750,000 for an activity described in subsection (c)(2).

(f) *COST-SHARING REQUIREMENTS.*—The cost-sharing requirements of the program, including requirements relating to in-kind contributions, shall be determined by the Secretary in accordance with section 988.

(g) *FUNDING.*—The Secretary may use to carry out the program—

1(1) amounts in the Energy Technology Commercialization Fund established under section 1001(e); or

(2) any other amounts made available to support technology transfer within the Department.

(h) ANNUAL REPORT.—The Secretary shall include in the annual report required under section 1001(h)(2) a description of the results of the technology maturation projects carried out under the program.

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