

**AMENDMENT OFFERED BY MR. WELCH OF
VERMONT
TO THE AMENDMENT IN THE NATURE OF A
SUBSTITUTE FOR H.R. 8**

In chapter 2 of subtitle A of title IV, add at the end
the following new section:

1 **SEC. 4127. SMART MANUFACTURING ASSISTANCE.**

2 (a) DEFINITIONS.—In this section:

3 (1) ENERGY MANAGEMENT SYSTEM.—The term
4 “energy management system” means a business
5 management process based on standards of the
6 American National Standards Institute that enables
7 an organization to follow a systematic approach in
8 achieving continual improvement of energy perform-
9 ance, including energy efficiency, security, use, and
10 consumption.

11 (2) INDUSTRIAL ASSESSMENT CENTER.—The
12 term “industrial assessment center” means a center
13 located at an institution of higher education that—

14 (A) receives funding from the Department
15 of Energy;

16 (B) provides an in-depth assessment of
17 small and medium-sized manufacturer plant

1 sites to evaluate the facilities, services, and
2 manufacturing operations of the plant site; and

3 (C) identifies opportunities for potential
4 savings for small and medium-sized manufac-
5 turer plant sites from energy efficiency improve-
6 ments, waste minimization, pollution preven-
7 tion, and productivity improvement.

8 (3) NATIONAL LABORATORY.—The term “Na-
9 tional Laboratory” has the meaning given the term
10 in section 2 of the Energy Policy Act of 2005 (42
11 U.S.C. 15801).

12 (4) SMALL AND MEDIUM-SIZED MANUFACTUR-
13 ERS.—The term “small and medium-sized manufac-
14 turers” means manufacturing firms—

15 (A) classified in the North American In-
16 dustry Classification System as any of sectors
17 31 through 33;

18 (B) with gross annual sales of less than
19 \$100,000,000;

20 (C) with fewer than 500 employees at their
21 plant sites; and

22 (D) with annual energy bills totaling more
23 than \$100,000 and less than \$2,500,000.

24 (5) SMART MANUFACTURING.—The term
25 “smart manufacturing” means advanced tech-

1 nologies in information, automation, monitoring,
2 computation, sensing, and networking that—

3 (A) digitally simulate manufacturing pro-
4 duction lines, operate computer numerically
5 controlled and additive manufacturing equip-
6 ment, monitor and communicate production line
7 status, and manage and optimize energy, pro-
8 ductivity, and cost throughout production;

9 (B) model, simulate, and optimize the en-
10 ergy efficiency of a factory building, and mon-
11 itor and optimize building energy performance;

12 (C) model, simulate, and optimize the de-
13 sign of energy efficient and sustainable prod-
14 ucts, including the use of digital prototyping
15 and additive manufacturing to enhance product
16 design, and connect manufactured products in
17 networks to monitor and optimize their per-
18 formance, including automated network oper-
19 ations; and

20 (D) digitally connect the supply chain net-
21 work.

22 (b) EXPANSION OF TECHNICAL ASSISTANCE PRO-
23 GRAMS.—

24 (1) IN GENERAL.—The Secretary of Energy
25 shall expand the scope of technologies covered by the

1 industrial assessment centers of the Department of
2 Energy—

3 (A) to include smart manufacturing tech-
4 nologies and practices; and

5 (B) to equip the directors of the industrial
6 assessment centers with the training and tools
7 necessary to provide technical assistance in
8 smart manufacturing technologies and prac-
9 tices, including energy management systems, to
10 manufacturers.

11 (2) FUNDING.—The Secretary of Energy shall
12 use unobligated funds of the Department of Energy
13 to carry out this subsection.

14 (c) LEVERAGING SMART MANUFACTURING INFRA-
15 STRUCTURE AT NATIONAL LABORATORIES.—

16 (1) STUDY.—

17 (A) IN GENERAL.—Not later than 180
18 days after the date of enactment of this Act,
19 the Secretary of Energy shall conduct a study
20 on ways in which the Department of Energy
21 can increase access to existing high-perform-
22 ance computing resources in the National Lab-
23 oratories, particularly for small and medium-
24 sized manufacturers.

1 (B) INCLUSIONS.—In identifying ways to
2 increase access to National Laboratories under
3 subparagraph (A), the Secretary shall—

4 (i) focus on increasing access to the
5 computing facilities of the National Lab-
6 oratories; and

7 (ii) ensure that—

8 (I) the information from the
9 manufacturer is protected; and

10 (II) the security of the National
11 Laboratory facility is maintained.

12 (C) REPORT.—Not later than 1 year after
13 the date of enactment of this Act, the Secretary
14 shall submit to Congress a report describing the
15 results of the study.

16 (2) ACTIONS FOR INCREASED ACCESS.—The
17 Secretary shall facilitate access to the National Lab-
18 oratories studied under paragraph (1) for small and
19 medium-sized manufacturers so that small and me-
20 dium-sized manufacturers can fully use the high-per-
21 formance computing resources of the National Lab-
22 oratories to enhance the manufacturing competitive-
23 ness of the United States.

