

111TH CONGRESS  
1ST SESSION

# H. R. 4399

To further the national deployment of electric drive vehicles, to strengthen and enhance the national power grid through the integration of such vehicles, and for other purposes.

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## IN THE HOUSE OF REPRESENTATIVES

DECEMBER 16, 2009

Mr. SERRANO (for himself, Mr. TERRY, Mr. MAFFEI, Mr. GONZALEZ, Mr. CARNAHAN, and Mr. ISRAEL) introduced the following bill; which was referred to the Committee on Oversight and Government Reform, and in addition to the Committees on Energy and Commerce, Transportation and Infrastructure, and Science and Technology, for a period to be subsequently determined by the Speaker, in each case for consideration of such provisions as fall within the jurisdiction of the committee concerned

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## A BILL

To further the national deployment of electric drive vehicles, to strengthen and enhance the national power grid through the integration of such vehicles, and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*  
2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1. SHORT TITLE.**

4 This Act may be cited as the “American Electric Ve-  
5 hicle Manufacturing Act”.

1 **SEC. 2. ELECTRIC VEHICLE PROGRAM ESTABLISHMENT**  
2 **AND GOALS.**

3 (a) ESTABLISHMENT.—Subject to amounts made  
4 available in advance in appropriations Acts, the Secretary  
5 of Energy, in consultation with the United States Postal  
6 Service, shall establish a program, to be carried out in 2  
7 phases, to award funds for the manufacture, testing, and  
8 delivery of at least 20,000 electric drive United States  
9 Postal Service Long Life Vehicles or other road vehicles  
10 for local postal delivery, to further the deployment of elec-  
11 tric drive vehicles and the development of grid services  
12 using electric drive vehicles, including Vehicle-to-Grid.

13 (b) GOALS OF THE PROGRAM.—The goals of the pro-  
14 gram established pursuant to subsection (a) are—

15 (1) to stimulate private industry development of  
16 highly efficient electric drive vehicles, advanced elec-  
17 tric drive powertrains, Electric Vehicle Battery  
18 Packs, and charging infrastructure by providing  
19 large-scale customer demand to purchase, test, and  
20 deploy electric drive vehicles and advanced electric  
21 drive powertrain conversion kits nationwide;

22 (2) to provide Smart Grid integration by estab-  
23 lishing a large-scale test bed in multiple regions of  
24 the United States for utilities, fleet owners, Inde-  
25 pendent System Operators, and aggregators to de-  
26 velop charging infrastructure, protocols, and stand-

1        ards for Vehicle-to-Grid deployment and other grid  
2        services using electric drive vehicles;

3            (3) to independently assess the performance  
4        and economic and environmental costs and benefits  
5        of electric drive vehicles and advanced electric drive  
6        powertrains and to make the results of such assess-  
7        ment publicly available through an information  
8        clearinghouse to the extent consistent with the pro-  
9        tection of proprietary information;

10          (4) to support development of renewable energy  
11        systems by aggregating and facilitating the use of  
12        vehicle battery storage capabilities to accommodate  
13        the intermittency of emerging renewable energy sys-  
14        tems, particularly wind systems; and

15          (5) to support the eventual transition of the  
16        United States Postal Service fleet to electric drive  
17        vehicles for postal delivery.

18 **SEC. 3. REQUIREMENTS FOR PHASE I OF THE ELECTRIC**  
19 **VEHICLE PROGRAM.**

20        (a) PHASE I AREAS OF INTEREST.—The Secretary,  
21        after consultation with the United States Postal Service,  
22        shall, at a minimum, award funds to carry out the fol-  
23        lowing areas of interest under the program established  
24        pursuant to section 2(a):

25            (1) ALL-ELECTRIC TRUCKS.—

1 (A) IN GENERAL.—The production and de-  
2 livery of 2,000 all-electric trucks that meet the  
3 requirements of subparagraph (B).

4 (B) REQUIREMENTS.—An all-electric truck  
5 under subparagraph (A) shall—

6 (i) be capable of interchangeably  
7 using Electric Vehicle Battery Packs sized  
8 at 20 kilowatt-hours, 30 kilowatt-hours, or  
9 40 kilowatt-hours of useful kilowatt-hour  
10 capacity or have a driving range of greater  
11 than 75 miles on a single charge;

12 (ii) use a maximum of 676 watt-hours  
13 per mile on a 50 percent-derated US06  
14 urban driving cycle, including the benefits  
15 of regenerative braking when operated in a  
16 moderate climate;

17 (iii) have a durable design for a min-  
18 imum of a 10-year service life;

19 (iv) have a minimum internal cargo  
20 capacity of 175 cubic feet or 1,750 pounds;

21 (v) have met all applicable require-  
22 ments of chapter III and chapter V of sub-  
23 title B of title 49, Code of Federal Regula-  
24 tions before being delivered;

(vi) be capable of attaining a minimum highway speed of 70 miles per hour on a level grade and 40 miles per hour going up a 10 percent grade;

(vii) have 4-wheels with forward and reverse drive capabilities;

(viii) have a curb weight of less than 5,000 pounds;

(ix) have a turning radius of less than 50 feet;

(x) be capable of accelerating from 0 to 60 miles per hour in less than 15 seconds and braking from 30 to 0 miles per hour in less than 55 feet;

(xi) be capable of continuously and safely ascending and descending 20 percent slopes at 20 miles per hour for up to one minute;

(xii) be Vehicle-to-Grid Compatible; and

(xiii) be compatible with and use charging stations produced and installed pursuant to paragraph (6).

(C) DELIVERIES.—Deliveries of all-electric trucks under subparagraph (A) to the United

1 States Postal Service shall begin by month 13  
2 and conclude not later than the end of month  
3 15 after the program start date.

4 (D) ELECTRIC VEHICLE BATTERY  
5 PACKS.—Each recipient of an award of funds  
6 under this paragraph shall also deliver an addi-  
7 tional number of Electric Vehicle Battery Packs  
8 equal to 20 percent of the number of all-electric  
9 trucks delivered by such recipient. The timing,  
10 delivery point, and composition of Electric Vehi-  
11 cle Battery Pack nameplate capacity shall be  
12 determined by the coordinating entity.

13 (E) TARGET NUMBER OF AWARDS.—To  
14 encourage competition, to the extent prac-  
15 ticable, the Secretary shall make 1 or 2 awards  
16 of funds to produce a total of 2,000 all-electric  
17 trucks under this paragraph. If the Secretary  
18 determines no applicant for an award of funds  
19 under this paragraph is qualified and respon-  
20 sive, then funds appropriated for the area of in-  
21 terest under this paragraph shall be used in-  
22 stead to increase the number of vehicles pro-  
23 duced pursuant to paragraph (2).

(2) NEW ELECTRIC UNITED STATES POSTAL SERVICE LONG LIFE VEHICLES AND NEW DERIVATIVE ELECTRIC VEHICLES.—

(A) IN GENERAL.—The design, qualification, production, and delivery of—

(i) 4,000 new electric United States Postal Service Long Life Vehicles that meet the requirements of subparagraph (B); and

(ii) 200 new Derivative Electric Vehicles that meet the requirements of subparagraph (C).

(B) NEW ELECTRIC UNITED STATES POSTAL SERVICE LONG LIFE VEHICLE REQUIREMENTS.—A new electric United States Postal Service Long Life Vehicle under subparagraph (A) shall be a new highly efficient all-electric vehicle, intended to replace an existing United States Postal Service Long Life Vehicle, and shall—

(i) be capable of interchangeably using Electric Vehicle Battery Packs sized at 20 kilowatt-hours, 30 kilowatt-hours, or 40 kilowatt-hours of useful kilowatt-hour capacity;

1           (ii) use a maximum of 338 watt-hours  
2           per mile on a 50 percent-derated US06  
3           urban driving cycle, including the benefits  
4           of regenerative braking when operated in a  
5           moderate climate;

6           (iii) have an all-aluminum body simi-  
7           lar to the body of an existing United  
8           States Postal Service Long Life Vehicle  
9           with a durable design for an expected 20-  
10          year service life;

11          (iv) have a minimum internal cargo  
12          capacity of 175 cubic feet or 1,750 pounds;

13          (v) have right-hand drive;

14          (vi) have met all applicable require-  
15          ments of chapter III and chapter V of sub-  
16          title B of title 49, Code of Federal Regula-  
17          tions before being delivered;

18          (vii) be capable of attaining a min-  
19          imum highway speed of 70 miles per hour  
20          on a level grade and 40 miles per hour  
21          going up a 10 percent grade;

22          (viii) have 4-wheels with forward and  
23          reverse drive capabilities;

24          (ix) have a curb weight of less than  
25          5,000 pounds;



1 (x) have a turning radius of less than  
2 50 feet;

3 (xi) be capable of accelerating from 0  
4 to 60 miles per hour in less than 15 sec-  
5 onds and braking from 30 to 0 miles per  
6 hour in less than 55 feet;

7 (xii) be capable of continuously and  
8 safely ascending and descending 20 per-  
9 cent slopes at 20 miles per hour for up to  
10 one minute;

11 (xiii) be Vehicle-to-Grid Compatible;  
12 and

13 (xiv) be compatible with and use  
14 charging stations produced and installed  
15 pursuant to paragraph (6).

16 (C) NEW DERIVATIVE ELECTRIC VEHICLE  
17 REQUIREMENTS.—A new Derivative Electric  
18 Vehicle under subparagraph (A)(ii) shall be a  
19 new highly efficient all-electric vehicle that uses  
20 the chassis and powertrain design of a new elec-  
21 tric United States Postal Service Long Life Ve-  
22 hicle that meets the requirements under sub-  
23 paragraph (B) and shall—

24 (i) be capable of interchangeably  
25 using Electric Vehicle Battery Packs sized

1 at 20 kilowatt-hours, 30 kilowatt-hours, or  
2 40 kilowatt-hours of useful kilowatt-hour  
3 capacity;

4 (ii) use a maximum of 563 watt-hours  
5 per mile on a 50 percent-derated US06  
6 urban driving cycle, including the benefits  
7 of regenerative braking when operated in a  
8 moderate climate;

9 (iii) have the upper body of the manu-  
10 facturer's choosing (such as a taxi or pick-  
11 up truck body) to enable the vehicle to be  
12 used for a variety of purposes, including  
13 mail delivery, and with a durable design to  
14 last a minimum of 10 years or 150,000  
15 miles;

16 (iv) have met all applicable require-  
17 ments of chapter III and chapter V of sub-  
18 title B of title 49, Code of Federal Regula-  
19 tions before being delivered;

20 (v) be capable of attaining a minimum  
21 highway speed of 70 miles per hour on a  
22 level grade and 40 miles per hour going up  
23 a 10 percent grade;

24 (vi) have 4-wheels with forward and  
25 reverse drive capabilities;

1 (vii) have a curb weight of less than  
2 5,000 pounds;

3 (viii) have a turning radius of less  
4 than 50 feet;

5 (ix) be capable of accelerating from 0  
6 to 60 miles per hour in less than 15 sec-  
7 onds and braking from 30 to 0 miles per  
8 hour in less than 55 feet;

9 (x) be capable of continuously and  
10 safely ascending and descending 20 per-  
11 cent slopes at 20 miles per hour for up to  
12 one minute;

13 (xi) be Vehicle-to-Grid Compatible;  
14 and

15 (xii) be compatible with and use  
16 charging stations produced and installed  
17 pursuant to paragraph (6).

18 (D) DELIVERIES.—Delivery of vehicles  
19 under subparagraph (A) to the United States  
20 Postal Service shall begin by month 25 and  
21 conclude not later than the end of month 30  
22 after the program start date.

23 (E) ELECTRIC VEHICLE BATTERY  
24 PACKS.—Each recipient of an award of funds  
25 under this paragraph shall also deliver an addi-

1            tional number of Electric Vehicle Battery Packs  
 2            equal to 20 percent of the number of vehicles  
 3            delivered by such recipient. The timing, delivery  
 4            point, and composition of Electric Vehicle Bat-  
 5            tery Pack nameplate capacity shall be deter-  
 6            mined by the coordinating entity.

7            (F) TARGET NUMBER OF AWARDS.—To  
 8            encourage competition, to the extent prac-  
 9            ticable, the Secretary shall make 2 awards of  
 10          funds under this paragraph.

11          (3) ELECTRIC DRIVE POWERTRAINS.—

12            (A) IN GENERAL.—The design, qualifica-  
 13            tion, production, and delivery of advanced elec-  
 14            tric drive powertrains for converting existing  
 15            United States Postal Service Long Life Vehicles  
 16            in the following quantities—

17                    (i) 1,000 plug-in hybrid electric vehi-  
 18                    cle powertrains that meet the requirements  
 19                    of subparagraph (B); and

20                    (ii) 2,000 all-electric powertrains that  
 21                    meet the requirements of subparagraph  
 22                    (C).

23            (B) PLUG-IN HYBRID ELECTRIC VEHICLE  
 24            POWERTRAIN REQUIREMENTS.—A plug-in hy-  
 25            brid electric vehicle powertrain under subpara-

graph (A) shall be a vehicle powertrain that combines an internal combustion engine, a battery, and an electric motor and that, when joined with the upper body of a existing United States Postal Service Long Life Vehicle shall—

(i) have a minimum range of 20 all-electric miles on an Environmental Protection Agency urban driving cycle;

(ii) have a minimum gasoline fuel economy of 45 miles per gallon on combined urban and highway driving cycles, as determined by the Administrator of the Environmental Protection Agency;

(iii) have a minimum fuel tank capacity of 7.5 gallons;

(iv) have an advanced-chemistry battery pack design with an anticipated lifetime use without replacement of a minimum of 10 years and 150,000 miles under normal driving conditions;

(v) have passed applicable defrosting, cabin warming, seatbelt, and lighting tests from the Federal motor vehicle safety standards before being delivered;

1 (vi) have a durable design for a min-  
2 imum 10-year service life;

3 (vii) have a minimum internal cargo  
4 capacity of 125 cubic feet or 1,250 pounds;

5 (viii) have idle stop, regenerative  
6 braking, and engine-off (electric vehicle-  
7 only mode) as integrated features;

8 (ix) be capable of attaining a min-  
9 imum highway speed of 70 miles per hour  
10 on a level grade and 40 miles per hour  
11 going up a 10 percent grade;

12 (x) have 4-wheels with forward and  
13 reverse drive capabilities;

14 (xi) have a curb weight of less than  
15 5,000 pounds;

16 (xii) have a turning radius of less  
17 than 50 feet;

18 (xiii) be capable of accelerating from  
19 0 to 60 miles per hour in less than 15 sec-  
20 onds and braking from 30 to 0 miles per  
21 hour in less than 55 feet;

22 (xiv) be capable of continuously and  
23 safely ascending and descending 20 per-  
24 cent slopes at 20 miles per hour for up to  
25 one minute;

1 (xv) be Vehicle-to-Grid Compatible;

2 and

3 (xvi) be compatible with and use  
4 charging stations produced and installed  
5 pursuant to paragraph (6).

6 (C) ALL-ELECTRIC POWERTRAIN REQUIRE-  
7 MENTS.—An all-electric powertrain under sub-  
8 paragraph (A) shall be an all-electric vehicle  
9 powertrain that, when joined with the upper  
10 body of a existing United States Postal Service  
11 Long Life Vehicle shall—

12 (i) be capable of interchangeably  
13 using Electric Vehicle Battery Packs sized  
14 at 20 kilowatt-hours, 30 kilowatt-hours, or  
15 40 kilowatt-hours of useful kilowatt-hour  
16 capacity;

17 (ii) use a maximum of 563 watt-hours  
18 per mile on a 50 percent-derated US06  
19 urban driving cycle, including the benefits  
20 of regenerative braking when operated in a  
21 moderate climate;

22 (iii) have passed applicable defrosting,  
23 cabin warming, seatbelt, and lighting tests  
24 from the Federal motor vehicle safety  
25 standards before being delivered;

- 1                   (iv) have a durable design for a min-  
2                   imum of a 10-year service life;
- 3                   (v) have a minimum internal cargo ca-  
4                   pacity of 125 cubic feet or 1,250 pounds;
- 5                   (vi) be capable of attaining a min-  
6                   imum highway speed of 70 miles per hour  
7                   on a level grade and 40 miles per hour  
8                   going up a 10 percent grade;
- 9                   (vii) have 4-wheels with forward and  
10                  reverse drive capabilities;
- 11                  (viii) have a curb weight of less than  
12                  5,000 pounds;
- 13                  (ix) have a turning radius of less than  
14                  50 feet;
- 15                  (x) be capable of accelerating from 0  
16                  to 60 miles per hour in less than 15 sec-  
17                  onds and braking from 30 to 0 miles per  
18                  hour in less than 55 feet;
- 19                  (xi) be capable of continuously and  
20                  safely ascending and descending 20 per-  
21                  cent slopes at 20 miles per hour for up to  
22                  one minute;
- 23                  (xii) be Vehicle-to-Grid Compatible;
- 24                  and



1 (xiii) be compatible with and use  
2 charging stations produced and installed  
3 pursuant to paragraph (6).

4 (D) DELIVERIES.—Delivery of all-electric  
5 powertrains and plug-in hybrid electric vehicle  
6 powertrains under subparagraph (A) to recipi-  
7 ents of funds for the area of interest under  
8 paragraph (4) shall begin by month 19 and  
9 conclude not later than the end of month 23  
10 after the program start date.

11 (E) ELECTRIC VEHICLE BATTERY  
12 PACKS.—Each recipient of an award of funds  
13 for the design, qualification, production, and  
14 delivery of all-electric powertrains under this  
15 paragraph shall also deliver an additional num-  
16 ber of Electric Vehicle Battery Packs equal to  
17 20 percent of the number of powertrains under  
18 subparagraph (A) delivered by such recipient.  
19 The timing, delivery point, and composition of  
20 Electric Vehicle Battery Pack nameplate capac-  
21 ity shall be determined by the coordinating enti-  
22 ty.

23 (F) TARGET NUMBER OF AWARDS.—To  
24 encourage competition, to the extent prac-  
25 ticable, the Secretary shall make 4 awards of

1 funds under this paragraph for all-electric  
2 powertrains and 2 awards of funds for plug-in  
3 hybrid electric vehicle powertrains. If the Sec-  
4 retary determines no applicant for an award of  
5 funds under this paragraph is qualified and re-  
6 sponsive, then funds for the area of interest  
7 under this paragraph shall be used instead to  
8 increase the number of vehicles produced pursu-  
9 ant to paragraph (2).

10 (4) CONVERSION OF EXISTING UNITED STATES  
11 POSTAL SERVICE LONG LIFE VEHICLES.—

12 (A) IN GENERAL.—The preparation and  
13 conversion of 3,000 existing United States  
14 Postal Service Long Life Vehicles to electric  
15 drive using all-electric powertrains and plug-in  
16 hybrid electric vehicle powertrains delivered  
17 pursuant to paragraph (3).

18 (B) DELIVERIES.—Delivery of United  
19 States Postal Service Long Life Vehicles con-  
20 verted pursuant to subparagraph (A) to the  
21 United States Postal Service shall begin by  
22 month 20 and conclude not later than the end  
23 of month 24 after the program start date.

24 (C) TARGET NUMBER OF AWARDS.—To  
25 encourage competition, to the extent prac-

1            ticable, the Secretary shall make 2 awards of  
2            funds under this paragraph.

3            (5) PLUG-IN HYBRID ELECTRIC VEHICLES.—

4                    (A) IN GENERAL.—The production and de-  
5            livery of 1,000 plug-in hybrid electric vehicles  
6            that meet the requirements of subparagraph  
7            (B).

8                    (B) REQUIREMENTS.—A plug-in hybrid  
9            electric vehicle under subparagraph (A) shall—

10                    (i) have a minimum range of 20 all-  
11            electric miles on an Environmental Protec-  
12            tion Agency urban driving cycle;

13                    (ii) have a minimum gasoline fuel  
14            economy of 30 miles per gallon on com-  
15            bined urban and highway drive cycles, as  
16            determined by the Administrator of the  
17            Environmental Protection Agency;

18                    (iii) have an advanced-chemistry bat-  
19            tery pack design with an anticipated life-  
20            time use without replacement of a min-  
21            imum of 10 years and 150,000 miles under  
22            normal driving conditions;

23                    (iv) have a durable design for a min-  
24            imum 10-year service life;

1 (v) have a minimum internal cargo ca-  
2 pacity of 50 cubic feet or 500 pounds;

3 (vi) have idle stop, regenerative brak-  
4 ing, and engine-off (electric vehicle-only  
5 mode) as integrated features;

6 (vii) have met all applicable require-  
7 ments of chapter III and chapter V of sub-  
8 title B of title 49, Code of Federal Regula-  
9 tions before being delivered;

10 (viii) be capable of attaining minimum  
11 highway speed of 70 miles per hour on a  
12 level grade and 40 miles per hour going up  
13 a 10 percent grade;

14 (ix) have 4-wheels with forward and  
15 reverse drive capabilities;

16 (x) have a curb weight of less than  
17 5,000 pounds;

18 (xi) have a turning radius of less than  
19 50 feet;

20 (xii) be capable of accelerating from 0  
21 to 60 miles per hour in less than 15 sec-  
22 onds and braking from 30 to 0 miles per  
23 hour in less than 55 feet;

24 (xiii) be capable of continuously and  
25 safely ascending and descending 20 per-

1 cent slopes at 20 miles per hour for up to  
2 one minute;

3 (xiv) be Vehicle-to-Grid Compatible;  
4 and

5 (xv) be compatible with and use  
6 charging stations produced and installed  
7 pursuant to paragraph (6).

8 (C) DELIVERIES.—Deliveries of plug-in hy-  
9 brid electric vehicles under subparagraph (A) to  
10 the United States Postal Service shall begin by  
11 month 13 and conclude not later than the end  
12 of month 15 after the program start date.

13 (D) TARGET NUMBER OF AWARDS.—To  
14 encourage competition, to the extent prac-  
15 ticable, the Secretary shall make 1 or 2 awards  
16 of funds under this paragraph to produce a  
17 total of 1,000 plug-in hybrid electric vehicles. If  
18 the Secretary determines no applicant for an  
19 award of funds under this paragraph is quali-  
20 fied and responsive, then funds for the area of  
21 interest under this paragraph shall be used in-  
22 stead to increase the number of vehicles pro-  
23 duced pursuant to paragraph (2).

24 (6) CHARGING STATIONS.—

1 (A) IN GENERAL.—The design, production,  
2 and installation of 12,000 charging stations  
3 that meet the requirements of subparagraph  
4 (B) at United States Postal Service facilities,  
5 including areas accessible by the general public.

6 (B) REQUIREMENTS.—A charging station  
7 under subparagraph (A) shall—

8 (i) use a connector that meets the So-  
9 ciety of Automotive Engineers Inter-  
10 national J1772 standard (or its successor)  
11 and be capable of Level II charging;

12 (ii) be capable of supplying 208/240  
13 volts and 80 amperes continuous;

14 (iii) have a unique identification code;

15 (iv) be capable of transmitting such  
16 unique identification code to the vehicle  
17 plugged in to it; and

18 (v) be capable of being connected to  
19 the Internet through a communications fa-  
20 cility such as powerline carrier, cellular  
21 network, or wireless internet protocol.

22 (C) INSTALLATION.—Installation of 3,600  
23 charging stations shall be completed by the end  
24 of month 12 after the program start date, with  
25 the balance of the charging stations to be in-

1 stalled by the end of month 18 after the pro-  
2 gram start date.

3 (D) TARGET NUMBER OF AWARDS.—To  
4 encourage competition, to the extent prac-  
5 ticable, the Secretary shall make 2 to 4 awards  
6 of funds to produce and install a total of  
7 12,000 charging stations under this paragraph.

8 (7) SMART GRID TECHNOLOGY.—

9 (A) IN GENERAL.—The deployment of  
10 Smart Grid technologies, principally Vehicle-to-  
11 Grid, for vehicles delivered pursuant to para-  
12 graphs (1), (2), (4), and (5) to connect to the  
13 power grid for charging and discharging and  
14 the provision of grid services.

15 (B) AWARD RECIPIENTS.—

16 (i) AWARD TEAMS.—Each recipient of  
17 an award of funds under this paragraph  
18 shall include a utility, Independent System  
19 Operator, and a separate entity acting as  
20 aggregator of electric vehicle charging de-  
21 mand.

22 (ii) GEOGRAPHIC DIVERSITY.—In  
23 awarding funds under this paragraph, the  
24 Secretary shall, to the extent practicable,  
25 select award teams described in clause (i)

1 that represent a broad range of geographic  
2 areas in the United States and shall ensure  
3 that a minimum of 1,000 vehicles from the  
4 test fleet and 1,200 charging stations are  
5 deployed to the geographic service area  
6 represented by each such award team.

7 (iii) MULTIPLE AWARD TEAM MEM-  
8 BERSHIP.—No Independent System Oper-  
9 ator may belong to more than 2 award  
10 teams described in clause (i).

11 (iv) TARGET NUMBER OF AWARDS.—  
12 To encourage competition, to the extent  
13 practicable, the Secretary shall make 7  
14 awards of funds under this paragraph.

15 (8) LITHIUM ION BATTERY REPURPOSING.—

16 (A) IN GENERAL.—Activities to increase  
17 lithium ion battery repurposing and lithium ion  
18 battery recycling infrastructure, including—

19 (i) analyses of business models and  
20 demonstration of uses of lithium ion bat-  
21 teries after the removal of such batteries  
22 from electric drive vehicles; and

23 (ii) building or increasing production  
24 capacity of a lithium ion battery recycling  
25 plant in the United States that has dem-



1           onstrated the ability to recycle a minimum  
2           of 2,000 lithium ion battery packs per  
3           month (or equivalent throughput).

4           (B) TARGET NUMBER OF AWARDS.—To  
5           encourage competition, to the extent prac-  
6           ticable, the Secretary shall make 2 awards of  
7           funds under this paragraph.

8           (9) STANDARDS AND SAFETY POLICIES.—

9           (A) IN GENERAL.—The development of  
10          standards and safety policies for, at a min-  
11          imum, the following categories relating to de-  
12          ployment of the test fleet:

13               (i) Standards for electricity tariffs for  
14               Vehicle-to-Grid or time-of-day charging, or  
15               both.

16               (ii) Standards for communication pro-  
17               tocols involving electric drive batteries and  
18               Vehicle-to-Grid or other grid services.

19               (iii) Standards for battery safety and  
20               battery recycling.

21               (iv) Standards for charging station in-  
22               frastructure.

23               (v) Standards for integration of the  
24               test fleet with intermittent renewable en-  
25               ergy sources (especially wind).

1 (B) TARGET NUMBER OF AWARDS.—To  
2 encourage competition, to the extent prac-  
3 ticable, the Secretary shall make a minimum of  
4 1 award of funds for each award category de-  
5 scribed under subparagraph (A).

6 (b) INTENT OF CONGRESS.—It is the intent of Con-  
7 gress to encourage the greatest amount of competition and  
8 the widest range of applicants (including large and small  
9 and geographically diverse companies) to receive awards  
10 of funds for the areas of interest under subsection (a).

11 (c) AWARDS.—

12 (1) COMPETITIVE SOLICITATION.—The Sec-  
13 retary shall issue a competitive solicitation for  
14 awards of Federal funds for the areas of interest  
15 under subsection (a).

16 (2) FEDERAL SHARE.—The Secretary shall de-  
17 termine the amount of funds each recipient of an  
18 award of funds under this Act shall provide, from  
19 non-Federal sources, to carry out the activities sup-  
20 ported by the award of funds. Recipients of awards  
21 of funds under paragraphs (1), (2), (3), and (5) of  
22 subsection (a) may receive awards of funds of up to  
23 80 percent of the total costs to carry out develop-  
24 ment and qualification activities for a project under  
25 each such respective paragraph.

1 (d) ASSESSMENT, COORDINATION, AND DATA ANAL-  
2 YSES REQUIREMENTS.—The Secretary shall, for assess-  
3 ment, coordination, and data analyses, make one award  
4 of funds for each of the following areas of interest under  
5 the program established pursuant to section 2(a):

6 (1) CHARGE AND USE DATA COLLECTION.—Col-  
7 lection and assessment of charge and use data for  
8 the test fleet to capture actual daily vehicle use data  
9 and conditions in the field for determining the eco-  
10 nomic cost per vehicle mile of operation.

11 (2) CHARGING AND VEHICLE-TO-GRID DATA  
12 COLLECTION.—Collection and assessment of charg-  
13 ing data and grid services provided, including Vehi-  
14 cle-to-Grid, for all vehicles in the test fleet, includ-  
15 ing—

16 (A) analysis of the total energy added to  
17 each Electric Vehicle Battery Pack in the test  
18 fleet per day;

19 (B) quantification of battery use for Vehi-  
20 cle-to-Grid activity per vehicle per day;

21 (C) analyses of the value of Vehicle-to-Grid  
22 and other grid services provided per vehicle per  
23 day; and

24 (D) evaluation of charging station per-  
25 formance and usage.

1           (3) ASSESSMENT OF MISSION REQUIRE-  
2           MENTS.—Assessment of how well the test fleet vehi-  
3           cles meet stated United States Postal Service vehicle  
4           objectives, including mission requirements, avail-  
5           ability, cost of ownership, energy use per mile, and  
6           maintenance summaries. Such assessment shall in-  
7           clude semiannual vehicle and powertrain evaluations  
8           for each type of vehicle in the test fleet.

9           (4) ECONOMIC AND ENVIRONMENTAL IM-  
10          PACTS.—Analysis of the economic and environmental  
11          impacts of all aspects of the test fleet (as compared  
12          to existing United States Postal Service Long Life  
13          Vehicles), including—

14                (A) projected operating costs per mile for  
15                each of the powertrains and vehicles produced  
16                under Phase I;

17                (B) projected revenues from Vehicle-to-  
18                Grid or other grid services per vehicle per day;  
19                and

20                (C) articulation of environmental impacts  
21                of continued deployment of electric drive vehi-  
22                cles for the United States Postal Service.

23          (5) EDUCATION AND OUTREACH.—Education  
24          and outreach to inform the general public, industry,  
25          and State and local governments about the objec-

1       tives and results of the program established pursu-  
2       ant to section 2(a).

3               (6) COORDINATION, OVERALL ASSESSMENT,  
4       AND SUMMARY REPORT ON PHASE I.—

5               (A) COORDINATING ENTITY.—The Sec-  
6       retary, after consultation with the United  
7       States Postal Service and the Postal Regulatory  
8       Commission, shall make an award of funds to  
9       an independent, non-governmental entity, to  
10      provide coordination of Phase I, including co-  
11      ordination and timing of the delivery of vehi-  
12      cles, powertrains, Electric Vehicle Battery  
13      Packs, and charging stations from award recipi-  
14      ents under subsection (a). Coordination shall  
15      include recommendations of specific allocations  
16      of vehicles and charging stations by location  
17      consistent with the goals of the program estab-  
18      lished pursuant to section 2(a) and subject to  
19      the approval of the Secretary. The entity se-  
20      lected to receive an award of funds under this  
21      paragraph shall have demonstrated expertise in  
22      electric vehicles and postal needs and regula-  
23      tion.

24              (B) REPORTS.—

(i) PHASE I REPORT.—The entity selected to receive an award of funds under this paragraph shall prepare a report that evaluates the product and performance of each award recipient under subsection (a). Such report shall be based on the data and analyses described in paragraphs (1) through (4), the results of the testing conducted pursuant to subsection (e), the least cost of ownership, United States Postal Service mission requirements, and any other relevant factors. The report shall contain recommendations for the Secretary to consider in awarding funds under Phase II, including a ranking of Phase I award recipients for production of additional vehicles and charging stations under Phase II. In extraordinary circumstances, such as unexpected technological developments or breakthroughs, the report may include a recommendation of a company or companies that were not Phase I award recipients for the award of funds for the production of vehicles or charging stations for Phase II. The report required under this

1 clause shall be submitted to the Secretary  
2 not later than 90 days after the submission  
3 of data and analyses described in para-  
4 graphs (1) through (4) and the results of  
5 the testing conducted pursuant to sub-  
6 section (e).

7 (ii) PHASE II ANNUAL REPORTS.—The  
8 entity selected to receive an award of funds  
9 under this paragraph shall review the per-  
10 formance of Phase II award recipients and  
11 the quality of Phase II vehicles and submit  
12 an annual report to the Secretary assess-  
13 ing the deployment of Phase II vehicles by  
14 the United States Postal Service for 2  
15 years after the delivery date of such Phase  
16 II vehicles.

17 (C) AWARD RECIPIENT CONSIDER-  
18 ATIONS.—In selecting the award recipient  
19 under this paragraph, the Secretary shall con-  
20 sider the ability of each applicant to provide ob-  
21 jective, unbiased assessments not only with re-  
22 spect to individual companies but also with re-  
23 spect to competing technologies and competing  
24 segments of the electric vehicle industry (such

1 as all-electric and plug-in hybrid electric vehi-  
2 cles).

3 (e) ACCELERATED USE TESTING BY DEPARTMENT  
4 OF ENERGY NATIONAL LABORATORIES.—

5 (1) ACCELERATED USE TESTING OF BATTERY  
6 PACKS IN A LABORATORY SETTING.—The Secretary  
7 shall direct one or more of the Department of En-  
8 ergy National Laboratories to conduct tests of the  
9 Electric Vehicle Battery Packs delivered pursuant to  
10 paragraphs (1), (2), and (3) of subsection (a), the  
11 results of which shall be submitted to the Secretary  
12 and the coordinating entity, to determine—

13 (A) battery pack cycle life in likely use;  
14 and

15 (B) the projected economic cost per vehicle  
16 mile of operation.

17 (2) ACCELERATED USE TESTING OF  
18 POWERTRAINS INSIDE AND OUTSIDE OF A LABORA-  
19 TORY SETTING.—The Secretary shall direct one or  
20 more of the Department of Energy National Labora-  
21 tories to conduct tests of the powertrains delivered  
22 pursuant to subsection (a), the results of which shall  
23 be submitted to the Secretary and the coordinating  
24 entity, to determine—



1 (A) powertrain life and warranty needs in  
2 projected use; and

3 (B) the projected economic cost per vehicle  
4 mile of operation.

5 (f) DATA COMPLETION AND INTEGRITY.—

6 (1) DATA COMPLETION.—All Phase 1 data and  
7 analyses under paragraphs (1) through (4) of sub-  
8 section (d) and the results of the tests conducted  
9 pursuant to subsection (e) shall be submitted to the  
10 Secretary and the coordinating entity not later than  
11 44 months after the program start date.

12 (2) INTEGRITY OF TESTING AND DATA COLLEC-  
13 TION.—The Inspector General of the United States  
14 Postal Service and the Inspector General of the De-  
15 partment of Energy shall have joint responsibility to  
16 ensure the integrity of all testing and data collection  
17 and the objectivity of all assessments and reports  
18 under this section.

19 (g) DISQUALIFICATIONS.—

20 (1) INDEPENDENT ASSESSMENT.—No person or  
21 entity who has a financial interest in any member of  
22 team or entity applying for an award of funds under  
23 subsection (a) shall be allowed to participate in any  
24 project for any area of interest under subsection (d).

1           (2) INDEPENDENT COORDINATION.—Any appli-  
2           cant for the award of funds under subsection (d)(6)  
3           shall be disqualified from receiving an award of  
4           funds under subsection (a).

5           (h) REVENUES DEPOSITED INTO FUND.—

6           (1) ESTABLISHMENT OF FUND.—There is es-  
7           tablished in the Treasury of the United States a  
8           fund to be known as the “Postal Service Sustain-  
9           ability Fund”, consisting of such amounts as may be  
10          appropriated to the Postal Service Sustainability  
11          Fund as provided in this section.

12          (2) TRANSFERS TO FUND.—There are hereby  
13          appropriated to the Postal Service Sustainability  
14          Fund any amounts received for grid services pursu-  
15          ant to subsection (a)(7) and any other revenues of  
16          United States Postal Service generated through ac-  
17          tivities under this Act.

18          (3) EXPENDITURES FROM POSTAL SERVICE  
19          SUSTAINABILITY FUND.—Amounts in the Postal  
20          Service Sustainability Fund shall be available, as  
21          provided by appropriation Acts, in any year for use  
22          by the United States Postal Service to make capital  
23          improvements to its infrastructure (including vehi-  
24          cles and facilities) to benefit the environment.

1 **SEC. 4. PROGRAM REQUIREMENTS FOR PHASE II.**

2 (a) REPORT BY THE INSPECTOR GENERAL.—Not  
3 later than 60 days after the submission of the report re-  
4 quired under section 3(d)(6)(B)(i), the Inspector General  
5 of the United States Postal Service shall review such re-  
6 port and submit to the Secretary a separate report with  
7 recommendations for specific vehicles and charging sta-  
8 tions for Phase II.

9 (b) TEAMS FOR PRODUCTION.—On the basis of the  
10 report required under section 3(d)(6)(B)(i) and the report  
11 of the Inspector General of the United States Postal Serv-  
12 ice required under subsection (a), the Secretary shall se-  
13 lect the recipient or recipients for awards of funds for  
14 Phase II for the production and delivery of 10,000 electric  
15 postal delivery vehicles and 12,000 charging stations.

16 **SEC. 5. BUY AMERICAN PRIORITY.**

17 In awarding funds for Phase I and Phase II of the  
18 program established pursuant to section 2(a), the Sec-  
19 retary shall give priority to applicants that have dem-  
20 onstrated commitment to—

21 (1) if sufficient and reasonably available com-  
22 mercial quantities of a satisfactory quality are avail-  
23 able, using—

24 (A) only such unmanufactured articles,  
25 materials, and supplies as have been mined or  
26 produced in the United States; and

1 (B) only such manufactured articles, mate-  
2 rials, and supplies as have been manufactured  
3 in the United States substantially all from arti-  
4 cles, materials, or supplies mined, produced, or  
5 manufactured, as the case may be, in the  
6 United States; and

7 (2) entering into contracts, with respect to any  
8 area of interest under this Act, that contain a provi-  
9 sion that in the performance of the work of a con-  
10 tractor, subcontractors, material men, or suppliers,  
11 shall use—

12 (A) only such unmanufactured articles,  
13 materials, and supplies as have been mined or  
14 produced in the United States; and

15 (B) only such manufactured articles, mate-  
16 rials, and supplies as have been manufactured  
17 in the United States substantially all from arti-  
18 cles, materials, or supplies mined, produced, or  
19 manufactured, as the case may be, in the  
20 United States.

21 **SEC. 6. INFORMATION CLEARINGHOUSE.**

22 The Secretary, as part of the program established  
23 pursuant to section 2(a) and in compliance with Federal  
24 and State laws, shall collect and make publicly available  
25 information on the cost, performance, and other technical

1 data regarding the deployment and integration of electric  
2 drive vehicles, charging stations, and Vehicle-to-Grid and  
3 other grid services, including the reports required under  
4 section 3(d)(6)(B). The Secretary shall establish rules for  
5 access to such information in a manner to protect propri-  
6 etary information and to ensure that disclosing entities are  
7 not placed at a competitive disadvantage.

8 **SEC. 7. EXEMPTION.**

9 Activities or services provided by the United States  
10 Postal Service arising from the program established pur-  
11 suant to section 2(a) shall be exempt from restrictions  
12 under section 404(e) of title 39, United States Code, and  
13 any regulation or order promulgated thereunder.

14 **SEC. 8. DEFINITIONS.**

15 In this Act:

16 (1) The term “aggregator” means a inde-  
17 pendent intermediary in the power industry that  
18 combines and coordinates the power needs of mul-  
19 tiple vehicles during recharging and acts as a liaison  
20 between a Regional Transmission Operator or Inde-  
21 pendent System Operator and owners of battery  
22 packs and electric vehicles.

23 (2) The term “charge level set-points and pro-  
24 tocols” means guidelines issued by a battery manu-  
25 facturer for the range of charge levels that a battery

1 pack should be operated within in order to attain a  
2 given number of charge cycles, life duration, or other  
3 key performance metrics.

4 (3) The term “coordinating entity” means the  
5 entity that receives an award of funds for the area  
6 of interest under section 3(d)(6).

7 (4) The term “cycle life” means the total num-  
8 ber of charge and discharge cycles a rechargeable  
9 battery cell or pack can sustain before the end of life  
10 of such battery cell or pack (meaning the battery cell  
11 or pack is capable of delivering only 80 percent of  
12 its initial rated ampere-hour capacity).

13 (5) The term “depth of discharge” means the  
14 amount of energy that has been removed from a bat-  
15 tery (or battery pack), typically expressed as a per-  
16 centage of the total capacity of the battery.

17 (6) The term “Electric Vehicle Battery Pack”  
18 means a battery pack that—

19 (A) has a maximum nominal voltage be-  
20 tween 300 and 600 volts of direct current;

21 (B) is capable of being exchanged with  
22 other Electric Vehicle Battery Packs within 4  
23 hours within the given vehicle or powertrain for  
24 which it is configured;

1 (C) has an advanced-chemistry design and  
2 an anticipated cycle life without replacement of  
3 a minimum of 7 years under normal driving  
4 conditions;

5 (D) if lithium-ion, has passed UN safety  
6 tests prior to deliveries of the test fleet;

7 (E) is capable of satisfying the require-  
8 ments under the program established pursuant  
9 to section 2(a) with respect to a vehicle or  
10 powertrain for which it is configured;

11 (F) is Vehicle-to-Grid Compatible; and

12 (G) with respect to a specific powertrain or  
13 vehicle in the test fleet, is designed to be inter-  
14 changeable and, to the extent practicable is pro-  
15 duced in equal quantities of 3 sizes of 20 kilo-  
16 watt-hours, 30 kilowatt-hours, and 40 kilowatt-  
17 hours of useful kilowatt-hour capacity, respec-  
18 tively.

19 (7) The term “Environmental Protection Agen-  
20 cy urban driving cycle” means a test driving cycle  
21 incorporating a series of data points representing  
22 the speed of a vehicle versus time used by the Envi-  
23 ronmental Protection Agency to test and measure  
24 vehicle emissions.

1           (8) The term “existing United States Postal  
2       Service Long Life Vehicle” means a United States  
3       Postal Service Long Life Vehicle—

4                   (A) originally produced by Grumman Al-  
5       lied Industries, Inc.; and

6                   (B) used in 2009 for postal delivery.

7           (9) The term “50 percent-derated US06 urban  
8       driving cycle” means a test driving cycle in which  
9       the vehicle speed is 50 percent of that listed in the  
10      US06 driving cycle for each one second interval.

11          (10) The term “Federal motor vehicle stand-  
12      ards” means the standards under part 571 of title  
13      49, Code of Federal Regulations.

14          (11) The term “financial interest” means any  
15      interest in, or affiliation with, an applicant for an  
16      award of funds under the program established pur-  
17      suant to section 2(a) in the 12 months prior to the  
18      date of application for such an award of funds. A fi-  
19      nancial interest includes—

20                   (A) an ownership interest that is more  
21      than 1 percent of equity or bonds outstanding;

22                   (B) a loan or other financial arrangement;  
23      and



1 (C) employment (not including legal or  
2 consulting services) or arrangements for future  
3 employment.

4 (12) The term “grid services” mean the provi-  
5 sion of services of monetary value to the power grid,  
6 including—

7 (A) regulation;

8 (B) quick response emergency power at the  
9 grid level to prevent cascading shutdowns;

10 (C) at the distribution system level, reduc-  
11 ing load at substations and transformers at  
12 critical times when the grid is overloaded; and

13 (D) the balancing of intermittent renew-  
14 able energy sources, such as wind.

15 (13) The term “Independent System Operator”  
16 has the meaning given such term in section 3(28) of  
17 the Federal Power Act (16 U.S.C. 796(28)).

18 (14) The term “lifetime energy” means the  
19 total energy available from a battery pack when op-  
20 erated using manufacturer defined depth-of-dis-  
21 charge and charge level set-points and protocols (in-  
22 cluding thermal management) during the period  
23 from its first use to the charge cycle when the bat-  
24 tery pack can only be charged to 80 percent of its  
25 nameplate capacity.

1           (15) The term “nameplate capacity” means the  
2           nominal maximum energy capacity of a battery  
3           pack.

4           (16) The term “Phase I” means the portion of  
5           the program established pursuant to section 2(a)  
6           that occurs before Phase II.

7           (17) The term “Phase II” means the portion of  
8           the program established pursuant to section 2(a) re-  
9           quired under section 4, the production, deployment,  
10          and installation of the vehicles and charging stations  
11          described in section 4(b), and the reports required  
12          under section 3(d)(6)(B)(ii).

13          (18) The term “program start date” means a  
14          date designated by the Secretary in consultation  
15          with the United States Postal Service that is not  
16          later than 90 days after the date of the first award  
17          of funds under the program established pursuant to  
18          section 2(a).

19          (19) The term “qualification” means activities  
20          after the design phase that demonstrate that certain  
21          requirements are met by a product, including—

22                 (A) with respect to vehicles produced and  
23                 delivered pursuant to this Act, meeting the  
24                 Federal motor vehicle safety standards that re-  
25                 quire crash tests and data analysis; and

1 (B) with respect to lithium ion Electric Ve-  
2 hicle Battery Packs developed and delivered  
3 pursuant to this Act, passing UN safety tests  
4 before vehicle deliveries begin.

5 (20) The term “Regional Transmission Organi-  
6 zation” has the meaning such term in section 3(27)  
7 of the Federal Power Act (16 U.S.C. 796(27)).

8 (21) The term “regulation” means, with respect  
9 to electric energy markets, continuous adjustment of  
10 and balancing of load and generation in response to  
11 a real time signal to maintain the grid frequency of  
12 60 Hertz.

13 (22) The term “right hand drive” means, with  
14 respect to a vehicle, that the driving seat and con-  
15 trols of such vehicle are on the right side of such ve-  
16 hicle.

17 (23) The term “Secretary” means the Secretary  
18 of Energy.

19 (24) The term “spinning reserves” means avail-  
20 able storage capacity that is infrequently called upon  
21 to provide power to the power grid in response to a  
22 real time signal in the event of an unplanned power  
23 shortage.

24 (25) The term “test fleet” means the fleet of  
25 vehicles delivered pursuant to Phase I.

1           (26) The term “UN safety tests” means the  
2           protocols and safety standards required for the safe  
3           transit of dangerous goods, including lithium ion  
4           batteries, as established by the United Nations  
5           Transport of Dangerous Goods subcommittee.

6           (27) The term “useful-kilowatt-hour” means  
7           the energy capacity of a battery pack when operated  
8           within depth of discharge ranges established by the  
9           manufacturer to achieve cycle life, lifetime energy,  
10          longevity, and other performance goals of the bat-  
11          tery pack.

12          (28) The term “US06 driving cycle” means a  
13          test driving cycle used by the Environmental Protec-  
14          tion Agency designed to simulate aggressive vehicle  
15          operation and used in the 5-cycle fuel economy  
16          measurement that incorporates fuel economy values  
17          from 5 different emission test cycles to get an over-  
18          all fuel economy estimate to reflect real world driv-  
19          ing.

20          (29) The term “Vehicle-to-Grid” means use of  
21          an electric drive vehicle (battery, fuel cell, or hybrid)  
22          to provide power to the power grid for various uses  
23          while the vehicle is parked.

24          (30) The term “Vehicle-to-Grid Compatible”  
25          means—

1 (A) with respect to a Electric Vehicle Bat-  
2 tery Pack delivered under the program estab-  
3 lished pursuant to section 2(a)—

4 (i) is capable of recharging from an  
5 external source of electric energy at a rate  
6 of at least 15 kilowatts continuous; and

7 (ii) is capable of discharging electric  
8 energy from the vehicle to the power grid  
9 at a rate of at least 15 kilowatts contin-  
10 uous; and

11 (B) with respect to a vehicle delivered  
12 under the program established pursuant to sec-  
13 tion 2(a)—

14 (i) is equipped with an Electric Vehi-  
15 cle Battery Pack that meets the require-  
16 ments under subparagraph (A);

17 (ii) is capable of drawing motive  
18 power from a battery with useful-kilowatt-  
19 hour capacity of at least 15 kilowatt-hours;  
20 and

21 (iii) is equipped with on-board com-  
22 munications hardware and software that  
23 allow for the external computer control of  
24 the direction and rate of battery charging  
25 and discharging by an aggregator.

1 **SEC. 9. AUTHORIZATIONS OF APPROPRIATIONS.**

2 (a) PHASE I.—

3 (1) ALL-ELECTRIC TRUCKS.—There are author-  
4 ized to be appropriated \$125,000,000 to carry out  
5 the area of interest under section 3(a)(1).

6 (2) NEW ELECTRIC UNITED STATES POSTAL  
7 SERVICE LONG LIFE VEHICLES AND DERIVATIVE  
8 ELECTRIC VEHICLES.—There are authorized to be  
9 appropriated \$415,000,000 to carry out the area of  
10 interest under section 3(a)(2).

11 (3) ELECTRIC DRIVE POWERTRAINS.—There  
12 are authorized to be appropriated \$480,000,000 to  
13 carry out the area of interest under section 3(a)(3),  
14 with not more than one-fourth of such amount to be  
15 used for the design, production, and delivery of plug-  
16 in hybrid electric vehicle powertrains.

17 (4) CONVERSION OF EXISTING UNITED STATES  
18 POSTAL SERVICE LONG LIFE VEHICLES.—There are  
19 authorized to be appropriated \$35,000,000 to carry  
20 out the area of interest under section 3(a)(4).

21 (5) PLUG-IN HYBRID ELECTRIC VEHICLES.—  
22 There are authorized to be appropriated  
23 \$60,000,000 to carry out the area of interest under  
24 section 3(a)(5).

1           (6) CHARGING STATIONS.—There are author-  
2           ized to be appropriated \$60,000,000 to carry out the  
3           area of interest under section 3(a)(6).

4           (7) SMART GRID TECHNOLOGY.—There are au-  
5           thorized to be appropriated \$140,000,000 to carry  
6           out the area of interest under section 3(a)(7).

7           (8) LITHIUM ION BATTERY REPURPOSING.—  
8           There are authorized to be appropriated  
9           \$30,000,000 to carry out the area of interest under  
10          section 3(a)(8).

11          (9) STANDARDS AND SAFETY POLICY.—There  
12          are authorized to be appropriated \$25,000,000 to  
13          carry out the area of interest under section 3(a)(9).

14          (10) CHARGE AND USE DATA COLLECTION.—  
15          There are authorized to be appropriated  
16          \$15,000,000 to carry out the area of interest under  
17          section 3(d)(1).

18          (11) CHARGING AND VEHICLE-TO-GRID DATA  
19          COLLECTION.—There are authorized to be appro-  
20          priated \$15,000,000 to carry out the area of interest  
21          under section 3(d)(2).

22          (12) ASSESSMENT OF MISSION REQUIRE-  
23          MENTS.—There are authorized to be appropriated  
24          \$7,500,000 to carry out the area of interest under  
25          section 3(d)(3).

1           (13) ECONOMIC AND ENVIRONMENTAL IM-  
2       PACTS.—There are authorized to be appropriated  
3       \$7,500,000 to carry out the area of interest under  
4       section 3(d)(4).

5           (14) EDUCATION AND OUTREACH.—There are  
6       authorized to be appropriated \$5,000,000 to carry  
7       out the area of interest under section 3(d)(5).

8           (15) COORDINATION, OVERALL ASSESSMENT,  
9       AND SUMMARY REPORT ON PHASE I.—There are au-  
10      thorized to be appropriated \$25,000,000 to carry  
11      out the coordination and report aspects of the area  
12      of interest under section 3(d)(6).

13          (16) ACCELERATED USE TESTING OF BATTERY  
14      PACKS.—There are authorized to be appropriated  
15      \$20,000,000 to carry out the testing under section  
16      3(e)(1).

17          (17) ACCELERATED USE TESTING OF  
18      POWERTRAINS.—There are authorized to be appro-  
19      priated \$15,000,000 to carry out the testing under  
20      section 3(e)(2).

21          (18) JOB TRAINING.—There are authorized to  
22      be appropriated \$5,000,000 to the Secretary during  
23      Phase I for the training of United States Postal  
24      Service employees for maintenance of postal electric



1 vehicles delivered pursuant to this Act and installa-  
2 tion and maintenance of related infrastructure.

3 (19) ADDITIONAL AWARDS.—There are author-  
4 ized to be appropriated \$20,000,000 to the Sec-  
5 retary during Phase I, for making additional awards  
6 of funds, at the discretion of the Secretary, to ad-  
7 dress other related issues, such as cold-weather per-  
8 formance of vehicles and batteries, possible integra-  
9 tion into rural postal deliveries, and in-vehicle en-  
10 hancements.

11 (b) PHASE II.—There are authorized to be appro-  
12 priated to the Secretary \$450,000,000 for the production  
13 and delivery of the vehicles and the installation of charg-  
14 ing stations described in section 4(b).

15 (c) ADMINISTRATION AND TRAINING.—From the  
16 funds appropriated pursuant to subsections (a) and (b),  
17 in an amount not to exceed \$2,000,000 in each fiscal year,  
18 the Secretary shall reimburse the United States Postal  
19 Service and the Inspector General of the United States  
20 Postal Service for any costs incurred in administering the  
21 program established pursuant to section 2(a).

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