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# A BILL FOR AN ACT

RELATING TO ENERGY.

**BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF HAWAII:**

1           SECTION 1. The legislature finds that meeting the State's  
2 goal of transitioning completely to renewable energy for  
3 electricity and transportation is most cost-efficient when  
4 certain measures are taken during the construction of new homes  
5 rather than as retrofits after construction has already been  
6 completed.

7           The legislature further finds that when undertaken during  
8 home construction, preparation for the future installation of  
9 infrastructure for photovoltaic systems and electric vehicles  
10 can leverage existing work activities with a minimum of  
11 additional time and effort. In contrast, retrofitting a  
12 completed home to install photovoltaic infrastructure may  
13 require breaking and repairing walls, installing longer  
14 conduits, and performing expensive upgrades of already-installed  
15 electric service panels. Meanwhile, retrofitting a finished  
16 home to install electric vehicle infrastructure may require  
17 trenching, demolition, and re-paving. Furthermore, the costs



1 for permitting, inspection, and project management are lower for  
2 new construction than for existing structures.

3 On February 18, 2020, the office of climate change,  
4 sustainability and resiliency of the city and county of Honolulu  
5 provided cost estimates for certain measures passed by the  
6 Honolulu city council in order to make new homes "photovoltaic  
7 and electric vehicle ready". The cost estimate for solar  
8 conduit and electric panel readiness ranges from \$100 to \$300,  
9 and the cost estimate for electric vehicle readiness also falls  
10 within the same range.

11 The city and county of Honolulu enacted a measure to  
12 require solar conduit and electrical panel readiness for new  
13 construction and a measure to require electric vehicle readiness  
14 when an electrical panel and parking area are installed.

15 The legislature finds that these important actions should  
16 be adopted on a statewide basis. Therefore, the purpose of this  
17 Act is to require, beginning on January 1, 2024:

- 18 (1) Solar conduit and electrical panel readiness for new  
19 residential construction; and  
20 (2) Electric vehicle readiness when an electrical panel  
21 and parking area are installed.



1 SECTION 2. Chapter 196, Hawaii Revised Statutes, is  
2 amended by adding two new sections to be appropriately  
3 designated and to read as follows:

4 "§196- Photovoltaic infrastructure; new residential  
5 construction. (a) With respect to the construction of new  
6 residences, construction plans shall indicate:

7 (1) A location for inverters, metering equipment, battery  
8 equipment, energy storage equipment, and other  
9 equipment to interconnect a residence with on-site  
10 solar energy generation facilities with the electrical  
11 grid in compliance with all applicable laws and  
12 utility tariffs; and

13 (2) A pathway for the routing of conduits from the solar  
14 panel location to the point of interconnection with  
15 electrical service.

16 (b) An electrical panel with the capacity to accommodate  
17 not less than a five-kilowatt alternating current photovoltaic  
18 system shall be installed for each newly constructed single-  
19 family residence or each residential unit within a two-family  
20 detached residence or duplex.



1        (c) An electrical panel that includes reserved space to  
2 accommodate a photovoltaic system shall be installed for each  
3 newly constructed multi-family residence. The electrical panel  
4 shall be sized:

- 5        (1) To serve common-area electrical loads; or  
6        (2) To the amount of available space on the roof of the  
7            multi-family residence.

8        The reserved space shall be clearly labeled "solar  
9 photovoltaic ready".

10       (d) All feeders and electrical distribution equipment,  
11 including switchgear, switchboards, and panelboards, that will  
12 be fed simultaneously by the electrical grid and other power  
13 sources shall be sized to support the installation of future  
14 solar energy generation systems in accordance with the  
15 interconnection requirements of the applicable electrical code.

16       (e) Conduits of not less than one and one-half inches that  
17 provide a pathway from the electrical panel to the inverter  
18 location and from the inverter location to the underside of the  
19 roof sufficient to allow future installation of solar equipment  
20 shall be installed for all newly constructed residences.



1        (f) If conduits are to be installed between buildings or  
2 other structures, the construction plans shall provide  
3 sufficient details to demonstrate that compliance with the  
4 applicable electrical code's restrictions on the number of power  
5 supplies to each building or other structure has been examined.

6        (g) As used in this section:

7        "Residential unit" means each individual dwelling in a two-  
8 family detached residence or duplex. A "residential unit" shall  
9 be designed or used exclusively for residential occupancy and  
10 have all necessary facilities for permanent residency, such as  
11 living, sleeping, cooking, eating, and sanitation.

12        "Single-family residence" means an individual,  
13 freestanding, unattached dwelling unit, typically built on a lot  
14 larger than the structure itself, resulting in an area  
15 surrounding the dwelling.

16        "Two-family detached residence" means a freestanding,  
17 unattached dwelling unit that is intended or designed to be  
18 occupied by only two families in the following manner:

19        (1) The individual residential units are constructed side  
20 by side and joined by a common wall; or



1        (2) One residential unit is located on the first floor and  
2                the other residential unit is located on the second  
3                floor.

4        **§196- Electric vehicle readiness.** (a) In addition to  
5 the requirements of the applicable electrical code, if an  
6 application for a building permit involves the installation of  
7 an electrical panel and parking area for:

- 8                (1) A multi-family residence of three or fewer stories; or  
9                (2) A single-family residence, two-family detached  
10                residence, or duplex,

11 a dedicated receptacle for an electric vehicle shall be provided  
12 with a minimum alternating current level 2.

13                (b) As used in this section:

14                "Residential unit" means each individual dwelling in a two-  
15 family detached residence or duplex. A "residential unit" shall  
16 be designed or used exclusively for residential occupancy and  
17 have all necessary facilities for permanent residency, such as  
18 living, sleeping, cooking, eating, and sanitation.

19                "Single-family residence" means an individual,  
20 freestanding, unattached dwelling unit, typically built on a lot



1 larger than the structure itself, resulting in an area  
2 surrounding the dwelling.

3 "Two-family detached residence" means a freestanding,  
4 unattached dwelling unit that is intended or designed to be  
5 occupied by only two families in the following manner:

6 (1) The individual residential units are constructed side  
7 by side and joined by a common wall; or

8 (2) One residential unit is located on the first floor and  
9 the other residential unit is located on the second  
10 floor."

11 SECTION 3. New statutory material is underscored.

12 SECTION 4. This Act shall take effect on January 1, 2024.

13 INTRODUCED BY: 



# S.B. NO. 1181

**Report Title:**

Photovoltaic Systems and Electric Vehicles; Readiness; New Residential Construction

**Description:**

Requires solar conduit and electrical panel readiness for new residential construction and electric vehicle readiness when an electrical panel and parking area are installed. Effective 1/1/2024.

*The summary description of legislation appearing on this page is for informational purposes only and is not legislation or evidence of legislative intent.*

