

# Proposed 2<sup>nd</sup> Substitute House Bill 1287

By Representative Ramel

**Original Bill:** Concerning preparedness for a zero emissions transportation future.

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## Proposed 2<sup>nd</sup> Substitute House Bill (H-1030.1) compared to the Substitute House Bill 1287 (H-0785.1):

- Moves the responsibility for the development of the electric vehicle mapping and forecasting tool from the Department of Commerce (Commerce) to the Department of Transportation's (WSDOT) public-private partnerships office.
- Authorizes WSDOT to contract with Commerce or private partners for the development of the tool.
- Requires the WSDOT, using the forecasting tool, to forecast statewide zero emissions vehicle (ZEV) use that would achieve state greenhouse gas emission limits, and to include forecasts capturing each county's relative levels of ZEV use that would achieve each county's relative emissions reductions consistent with state limits.
- Specifies that electric utility resource plans must support and account for (1) modeled load forecast scenarios that consider anticipated levels of ZEV use; and (2) any discrepancy between forecasted levels of ZEV use and the levels of ZEV use that would achieve emission reductions consistent with state emission limits.

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*Committee:* House Transportation Committee  
*Staff:* Jacob Lipson (786-7196) and Jennifer Harris (786-7143), Office of Program Research  
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**BILL REQUEST - CODE REVISER'S OFFICE**

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BILL REQ. #: H-1030.1/21

ATTY/TYPIST: ML:jlb

BRIEF DESCRIPTION: Concerning preparedness for a zero emissions transportation future.

1 AN ACT Relating to preparedness for a zero emissions  
2 transportation future; amending RCW 19.280.030 and 19.27.540; adding  
3 a new section to chapter 47.01 RCW; and creating a new section.

4 BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF WASHINGTON:

5 NEW SECTION. **Sec. 1.** (1) Motor vehicles are a significant  
6 source of air pollution, including greenhouse gas emissions, in  
7 Washington. The transportation sector accounts for nearly one-half of  
8 greenhouse gas emissions in Washington, and on-road vehicle emissions  
9 are responsible for the vast majority of the transportation sector  
10 emissions.

11 (2) The widespread adoption of zero emissions vehicles is  
12 essential to the achievement of the state emissions limits  
13 established in RCW 70A.45.020, which, by 2050, requires a reduction  
14 of greenhouse gas emissions to 5,000,000 metric tons and the  
15 achievement of net zero greenhouse gas emissions. The rapid uptake of  
16 zero emissions vehicles is also an essential component of the state  
17 energy strategy, which calls for the phase out of vehicles powered by  
18 gasoline or diesel by mid-century. To ensure that the necessary  
19 infrastructure is in place to facilitate zero emissions vehicle  
20 adoption, the state energy strategy calls for the establishment of  
21 building codes that require installation of the conduit, wiring, and

1 panel capacity necessary to support electric vehicle charging in new  
2 and retrofitted buildings.

3 (3) In 2005, Washington first took action to adopt some of the  
4 motor vehicle emissions standards of the state of California, which  
5 are more protective of human health and the environment than federal  
6 motor vehicle emissions standards. In 2020, the legislature directed  
7 the department of ecology to adopt all of California's motor vehicle  
8 emissions standards, including California's zero emissions vehicles  
9 program.

10 (4) A Washington state transition to a zero emissions  
11 transportation future requires accurate forecasting of zero emissions  
12 vehicle adoption rates, comprehensive planning for the necessary  
13 electric vehicle charging and green hydrogen production  
14 infrastructure, including the siting of infrastructure in desirable  
15 locations with amenities, such as near convenience stores and other  
16 small retailers, and managing the load of charging and green hydrogen  
17 production and refueling infrastructure as a dynamic energy service  
18 to the electric grid.

19 (5) To ensure that the transition to a zero emissions  
20 transportation future proceeds efficiently and conveniently for users  
21 and operators of the multimodal transportation system, it is the  
22 intent of the legislature to:

23 (a) Require state government to provide resources that facilitate  
24 the planning and deployment of electric vehicle charging and  
25 refueling infrastructure in a transparent, effective, and equitable  
26 manner across the state;

27 (b) Ensure utility resource planning analyzes the impacts on  
28 electricity generation and delivery from growing adoption and usage  
29 of electric vehicles; and

30 (c) Require state building codes that support the anticipated  
31 levels of zero emissions vehicle use that result from the program  
32 requirements in chapter 70A.30 RCW and that achieve emissions  
33 reductions consistent with RCW 70A.45.020.

34 NEW SECTION. **Sec. 2.** A new section is added to chapter 47.01  
35 RCW to read as follows:

36 (1) The department, through the department's public-private  
37 partnership office and in consultation with the department of  
38 ecology, the department of commerce, and the office of equity, must  
39 develop and maintain a publicly available mapping and forecasting

1 tool that provides locations and essential information of charging  
2 and refueling infrastructure to support forecasted levels of electric  
3 vehicle adoption, travel, and usage across Washington state.

4 (2) (a) The publicly available mapping and forecasting tool must  
5 be designed to enable coordinated, effective, efficient, and timely  
6 deployment of charging and refueling infrastructure necessary to  
7 support statewide and local transportation electrification efforts  
8 that result in emissions reductions consistent with RCW 70A.45.020.

9 (b) The tool must:

10 (i) Initially prioritize on-road transportation;

11 (ii) To the greatest extent possible, maintain the latest data;

12 (iii) Model charging and refueling infrastructure that may be  
13 used by owners and operators of light, medium, and heavy-duty  
14 vehicles; and

15 (iv) Incorporate the department's traffic data for passenger and  
16 freight vehicles.

17 (c) The tool must, if feasible:

18 (i) Provide the data necessary to support programs by state  
19 agencies that directly or indirectly support transportation  
20 electrification efforts;

21 (ii) Evolve over time to support future transportation  
22 electrification programs;

23 (iii) Provide data at a scale that supports electric utility  
24 planning for the impacts of transportation electrification both  
25 systemwide and on specific components of the distribution system; and

26 (iv) Forecast statewide zero emissions vehicle use that would  
27 achieve the emissions reductions consistent with RCW 70A.45.020. The  
28 department may reference existing zero emissions vehicle use  
29 forecasts, such as that established in the state energy strategy.

30 (3) The department, in consultation with the department of  
31 commerce, the department of ecology, and the office of equity, may  
32 elect to include other transportation charging and refueling  
33 infrastructure, such as maritime, public transportation, and aviation  
34 in the mapping and forecasting tool.

35 (4) The tool must include, to the extent feasible, the following  
36 elements:

37 (a) The amount, type, location, and year of installation for  
38 electric vehicle supply equipment that is expected to be necessary to  
39 support forecasted electric vehicle penetration and usage within the  
40 state;

1 (b) Electric vehicle adoption, usage, technological profiles, and  
2 any other characteristics necessary to model future electric vehicle  
3 penetration levels and use cases that impact electric vehicle supply  
4 equipment needs within the state;

5 (c) The estimated energy and capacity demand based on inputs from  
6 (b) of this subsection;

7 (d) Boundaries of political subdivisions including, but not  
8 limited to:

9 (i) Retail electricity suppliers;

10 (ii) Public transportation agency boundaries;

11 (iii) Municipalities;

12 (iv) Counties; and

13 (v) Federally recognized tribal governments;

14 (e) Existing and known publicly or privately owned level 2,  
15 direct current fast charge, and refueling infrastructure. The  
16 identification of refueling infrastructure must, if possible,  
17 distinguish refueling infrastructure that supplies green hydrogen  
18 from other hydrogen refueling infrastructure;

19 (f) A public interface designed to provide any user the ability  
20 to determine the forecasted charging and refueling infrastructure  
21 needs within a provided geographic boundary, including those listed  
22 under (d) of this subsection; and

23 (g) The ability for all data tracked within the tool to be  
24 downloadable or usable within a separate mapping and forecasting  
25 tool.

26 (5) The tool must, if feasible, integrate scenarios including:

27 (a) Varying levels of public transportation utilization;

28 (b) Varying levels of active transportation usage, such as biking  
29 or walking;

30 (c) Vehicle miles traveled amounts above and below the baseline;

31 (d) Adoption of autonomous and shared mobility services; and

32 (e) Forecasts capturing each county's relative level of zero  
33 emissions vehicle use that would achieve each county's relative  
34 emissions reductions consistent with RCW 70A.45.020.

35 (6) To support highly impacted communities and vulnerable  
36 populations disproportionately burdened by transportation-related  
37 emissions and to ensure economic and mobility benefits flow to  
38 communities that have historically received less investment in  
39 infrastructure, the mapping and forecasting tool must integrate  
40 population, health, environmental, and socioeconomic data on a census

1 tract basis. The department may use existing data used by other state  
2 or federal agencies. The department must consult with the department  
3 of health, the office of equity, the department of ecology, and other  
4 agencies as necessary in order to ensure the tool properly integrates  
5 cumulative impact analyses best practices and to ensure that the tool  
6 is developed in coordination with other state government  
7 administrative efforts to identify disproportionately impacted  
8 communities.

9 (7) The mapping and forecasting tool must, to the extent  
10 appropriate, integrate related analyses, such as the department of  
11 commerce's state energy strategy, the joint transportation  
12 committee's public fleet electrification study, the west coast  
13 collaborative's alternative fuel infrastructure corridor coalition  
14 report, and other related electric vehicle supply equipment  
15 assessments as deemed appropriate.

16 (8) Where appropriate and feasible, the mapping and forecasting  
17 tool must incorporate infrastructure located at or near the border in  
18 neighboring state and provincial jurisdictions.

19 (9) In designing the mapping and forecasting tool, the department  
20 must coordinate with the department of commerce, the department of  
21 ecology, the utilities and transportation commission, and other state  
22 agencies as needed in order to ensure the mapping and forecasting  
23 tool is able to successfully facilitate other state agency programs  
24 that involve deployment of electric vehicle supply equipment.

25 (10) The department must conduct a stakeholder process in  
26 developing the mapping and forecasting tool to ensure the tool  
27 supports the needs of communities, public agencies, and relevant  
28 private organizations. The stakeholder process must involve  
29 stakeholders, including but not limited to electric utilities, early  
30 in the development of the tool.

31 (11) The department may contract with the department of commerce  
32 or consultants, or both, to develop and implement all or portions of  
33 the mapping and forecasting tool. The department may rely on or, to  
34 the extent necessary, contract for privately maintained data  
35 sufficient to develop the elements specified in subsection (4) of  
36 this section.

37 (12) The definitions in this subsection apply throughout this  
38 section unless the context clearly requires otherwise:

1 (a) "Charging infrastructure" means a unit of fueling  
2 infrastructure that supplies electric energy for the recharging of  
3 battery electric vehicles.

4 (b) "Direct current fast charger" means infrastructure that  
5 supplies electricity to battery electric vehicles at capacities no  
6 less than 50 kilowatts, typically using 208/408 volt three-phase  
7 direct current electricity.

8 (c) "Electric vehicle" means any craft, vessel, automobile,  
9 public transportation vehicle, or equipment that transports people or  
10 goods and operates, either partially or exclusively, on electrical  
11 energy from an off-board source that is stored onboard for motive  
12 purpose.

13 (d) "Electric vehicle supply equipment" means charging  
14 infrastructure and hydrogen refueling infrastructure.

15 (e) (i) "Green hydrogen" means hydrogen produced using: (A)  
16 Electricity that meets the carbon neutrality standard of RCW  
17 19.405.040 by 2030 and carbon-free standard of RCW 19.405.050 by 2045  
18 for the energy input into the production process; and (B) renewable  
19 resources for the source of the hydrogen.

20 (ii) "Green hydrogen" includes renewable hydrogen as defined in  
21 RCW 19.405.020.

22 (f) "Level 2 charger" means infrastructure that supplies  
23 electricity to battery electric vehicles at 240 volts and equal to or  
24 less than 80 amps.

25 (g) "Refueling infrastructure" means a unit of fueling  
26 infrastructure that supplies hydrogen for the resupply of hydrogen  
27 fuel cell electric vehicles.

28 **Sec. 3.** RCW 19.280.030 and 2019 c 288 s 14 are each amended to  
29 read as follows:

30 Each electric utility must develop a plan consistent with this  
31 section.

32 (1) Utilities with more than twenty-five thousand customers that  
33 are not full requirements customers must develop or update an  
34 integrated resource plan by September 1, 2008. At a minimum, progress  
35 reports reflecting changing conditions and the progress of the  
36 integrated resource plan must be produced every two years thereafter.  
37 An updated integrated resource plan must be developed at least every  
38 four years subsequent to the 2008 integrated resource plan. The  
39 integrated resource plan, at a minimum, must include:



1 (a) A range of forecasts, for at least the next ten years or  
2 longer, of projected customer demand which takes into account  
3 econometric data and customer usage;

4 (b) An assessment of commercially available conservation and  
5 efficiency resources, as informed, as applicable, by the assessment  
6 for conservation potential under RCW 19.285.040 for the planning  
7 horizon consistent with (a) of this subsection. Such assessment may  
8 include, as appropriate, opportunities for development of combined  
9 heat and power as an energy and capacity resource, demand response  
10 and load management programs, and currently employed and new policies  
11 and programs needed to obtain the conservation and efficiency  
12 resources;

13 (c) An assessment of commercially available, utility scale  
14 renewable and nonrenewable generating technologies including a  
15 comparison of the benefits and risks of purchasing power or building  
16 new resources;

17 (d) A comparative evaluation of renewable and nonrenewable  
18 generating resources, including transmission and distribution  
19 delivery costs, and conservation and efficiency resources using  
20 "lowest reasonable cost" as a criterion;

21 (e) An assessment of methods, commercially available  
22 technologies, or facilities for integrating renewable resources,  
23 including but not limited to battery storage and pumped storage, and  
24 addressing overgeneration events, if applicable to the utility's  
25 resource portfolio;

26 (f) An assessment and ten-year forecast of the availability of  
27 regional generation and transmission capacity on which the utility  
28 may rely to provide and deliver electricity to its customers;

29 (g) A determination of resource adequacy metrics for the resource  
30 plan consistent with the forecasts;

31 (h) A forecast of distributed energy resources that may be  
32 installed by the utility's customers and an assessment of their  
33 effect on the utility's load and operations;

34 (i) An identification of an appropriate resource adequacy  
35 requirement and measurement metric consistent with prudent utility  
36 practice in implementing RCW 19.405.030 through 19.405.050;

37 (j) The integration of the demand forecasts, resource  
38 evaluations, and resource adequacy requirement into a long-range  
39 assessment describing the mix of supply side generating resources and  
40 conservation and efficiency resources that will meet current and

1 projected needs, including mitigating overgeneration events and  
2 implementing RCW 19.405.030 through 19.405.050, at the lowest  
3 reasonable cost and risk to the utility and its customers, while  
4 maintaining and protecting the safety, reliable operation, and  
5 balancing of its electric system;

6 (k) An assessment, informed by the cumulative impact analysis  
7 conducted under RCW 19.405.140, of: Energy and nonenergy benefits and  
8 reductions of burdens to vulnerable populations and highly impacted  
9 communities; long-term and short-term public health and environmental  
10 benefits, costs, and risks; and energy security and risk; ~~((and))~~

11 (l) A ten-year clean energy action plan for implementing RCW  
12 19.405.030 through 19.405.050 at the lowest reasonable cost, and at  
13 an acceptable resource adequacy standard, that identifies the  
14 specific actions to be taken by the utility consistent with the  
15 long-range integrated resource plan; and

16 (m) An analysis of how the plan supports and accounts for:

17 (i) (A) Modeled load forecast scenarios that consider the  
18 anticipated levels of zero emissions vehicle use in a utility's  
19 service area, taking into consideration zero emissions vehicle  
20 program effects, including those of chapter 70A.30 RCW; and

21 (B) Any discrepancy between the modeled forecasted levels of zero  
22 emissions vehicle use under (m)(i)(A) of this subsection and the  
23 levels of zero emissions vehicle use that would achieve emissions  
24 reductions consistent with RCW 70A.45.020;

25 (ii) Analysis, research, findings, recommendations, actions, and  
26 any other relevant information found in the electrification of  
27 transportation plans submitted under RCW 35.92.450, 54.16.430, and  
28 80.28.365; and

29 (iii) Assumed use case forecasts and the associated energy  
30 impacts. Electric utilities may, but are not required to, use the  
31 forecasts generated by the mapping and forecasting tool created in  
32 section 2 of this act. This subsection (1)(m)(iii) applies only to  
33 plans due to be filed after September 1, 2023.

34 (2) For an investor-owned utility, the clean energy action plan  
35 must: (a) Identify and be informed by the utility's ten-year cost-  
36 effective conservation potential assessment as determined under RCW  
37 19.285.040, if applicable; (b) establish a resource adequacy  
38 requirement; (c) identify the potential cost-effective demand  
39 response and load management programs that may be acquired; (d)  
40 identify renewable resources, nonemitting electric generation, and

1 distributed energy resources that may be acquired and evaluate how  
2 each identified resource may be expected to contribute to meeting the  
3 utility's resource adequacy requirement; (e) identify any need to  
4 develop new, or expand or upgrade existing, bulk transmission and  
5 distribution facilities; and (f) identify the nature and possible  
6 extent to which the utility may need to rely on alternative  
7 compliance options under RCW 19.405.040(1)(b), if appropriate.

8 (3)(a) An electric utility shall consider the social cost of  
9 greenhouse gas emissions, as determined by the commission for  
10 investor-owned utilities pursuant to RCW 80.28.405 and the department  
11 for consumer-owned utilities, when developing integrated resource  
12 plans and clean energy action plans. An electric utility must  
13 incorporate the social cost of greenhouse gas emissions as a cost  
14 adder when:

15 (i) Evaluating and selecting conservation policies, programs, and  
16 targets;

17 (ii) Developing integrated resource plans and clean energy action  
18 plans; and

19 (iii) Evaluating and selecting intermediate term and long-term  
20 resource options.

21 (b) For the purposes of this subsection (3): (i) Gas consisting  
22 largely of methane and other hydrocarbons derived from the  
23 decomposition of organic material in landfills, wastewater treatment  
24 facilities, and anaerobic digesters must be considered a nonemitting  
25 resource; and (ii) qualified biomass energy must be considered a  
26 nonemitting resource.

27 (4) To facilitate broad, equitable, and efficient implementation  
28 of chapter 288, Laws of 2019, a consumer-owned energy utility may  
29 enter into an agreement with a joint operating agency organized under  
30 chapter 43.52 RCW or other nonprofit organization to develop and  
31 implement a joint clean energy action plan in collaboration with  
32 other utilities.

33 (5) All other utilities may elect to develop a full integrated  
34 resource plan as set forth in subsection (1) of this section or, at a  
35 minimum, shall develop a resource plan that:

36 (a) Estimates loads for the next five and ten years;

37 (b) Enumerates the resources that will be maintained and/or  
38 acquired to serve those loads;

39 (c) Explains why the resources in (b) of this subsection were  
40 chosen and, if the resources chosen are not: (i) Renewable resources;

1 (ii) methods, commercially available technologies, or facilities for  
2 integrating renewable resources, including addressing any  
3 overgeneration event; or (iii) conservation and efficiency resources,  
4 why such a decision was made; (~~and~~)

5 (d) By December 31, 2020, and in every resource plan thereafter,  
6 identifies how the utility plans over a ten-year period to implement  
7 RCW 19.405.040 and 19.405.050; and

8 (e) Supports and accounts for:

9 (i)(A) Modeled load forecast scenarios that consider the  
10 anticipated levels of zero emissions vehicle use in a utility's  
11 service area, taking into consideration zero emissions vehicle  
12 program effects, including those of chapter 70A.30 RCW; and

13 (B) Any discrepancy between the modeled forecasted levels of zero  
14 emissions vehicle use under (e)(i)(A) of this subsection and the  
15 levels of zero emissions vehicle use that would achieve emissions  
16 reductions consistent with RCW 70A.45.020;

17 (ii) Analysis, research, findings, recommendations, actions, and  
18 any other relevant information found in the electrification of  
19 transportation plans submitted under RCW 35.92.450, 54.16.430, and  
20 80.28.365; and

21 (iii) Assumed use case forecasts and the associated energy  
22 impacts. Electric utilities may, but are not required to, use the  
23 forecasts generated by the mapping and forecasting tool created in  
24 section 2 of this act. This subsection (5)(e)(iii) applies only to  
25 plans due to be filed after September 1, 2023.

26 (6) Assessments for demand side resources included in an  
27 integrated resource plan may include combined heat and power systems  
28 as one of the measures in a conservation supply curve. The value of  
29 recoverable waste heat resulting from combined heat and power must be  
30 reflected in analyses of cost-effectiveness under this subsection.

31 (7) An electric utility that is required to develop a resource  
32 plan under this section must complete its initial plan by September  
33 1, 2008.

34 (8) Plans developed under this section must be updated on a  
35 regular basis, on intervals approved by the commission or the  
36 department, or at a minimum on intervals of two years.

37 (9) Plans shall not be a basis to bring legal action against  
38 electric utilities.

39 (10)(a) To maximize transparency, the commission, for investor-  
40 owned utilities, or the governing body, for consumer-owned utilities,

1 may require an electric utility to make the utility's data input  
2 files available in a native format. Each electric utility shall  
3 publish its final plan either as part of an annual report or as a  
4 separate document available to the public. The report may be in an  
5 electronic form.

6 (b) Nothing in this subsection limits the protection of records  
7 containing commercial information under RCW 80.04.095.

8 (11) By December 31, 2021, the department and the commission must  
9 adopt rules establishing the requirements for incorporating the  
10 cumulative impact analysis developed under RCW 19.405.140 into the  
11 criteria for developing clean energy action plans under this section.

12 **Sec. 4.** RCW 19.27.540 and 2019 c 285 s 18 are each amended to  
13 read as follows:

14 (1) The building code council shall adopt rules for electric  
15 vehicle infrastructure requirements. Rules adopted by the state  
16 building code council must consider applicable national and  
17 international standards and be consistent with rules adopted under  
18 RCW 19.28.281.

19 (2)(a) Except as provided in (b) of this subsection, the rules  
20 adopted under this section must require electric vehicle charging  
21 capability at all new buildings that provide on-site parking. Where  
22 parking is provided, the greater of one parking space or ten percent  
23 of parking spaces, rounded to the next whole number, must be provided  
24 with wiring or raceway sized to accommodate 208/240 V 40-amp or  
25 equivalent electric vehicle charging. Electrical rooms serving  
26 buildings with on-site parking must be sized to accommodate the  
27 potential for electrical equipment and distribution required to serve  
28 a minimum of twenty percent of the total parking spaces with 208/240  
29 V 40-amp or equivalent electric vehicle charging. Load management  
30 infrastructure may be used to adjust the size and capacity of the  
31 required building electric service equipment and circuits on the  
32 customer facilities, as well as electric utility-owned  
33 infrastructure, as allowed by applicable local and national  
34 electrical code. For accessible parking spaces, the greater of one  
35 parking space or ten percent of accessible parking spaces, rounded to  
36 the next whole number, must be provided with electric vehicle  
37 charging infrastructure that may also serve adjacent parking spaces  
38 not designated as accessible parking.

1 (b) For occupancies classified as assembly, education, or  
2 mercantile, the requirements of this section apply only to employee  
3 parking spaces. The requirements of this section do not apply to  
4 occupancies classified as residential R-3, utility, or miscellaneous.

5 (c) The required rules required under this subsection must be  
6 implemented by July 1, 2021.

7 (3)(a) The rules adopted under this section must exceed the  
8 specific minimum requirements established under subsection (2) of  
9 this section for all types of residential and commercial buildings to  
10 the extent necessary to support the anticipated levels of zero  
11 emissions vehicle use that result from the zero emissions vehicle  
12 program requirements in chapter 70A.30 RCW and that result in  
13 emissions reductions consistent with RCW 70A.45.020.

14 (b) The rules required under this subsection must be implemented  
15 by July 1, 2024, and may be periodically updated thereafter.

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