STATE OF WASHINGTON
DEPARTMENT OF COMMERCE
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October 11, 2022

Members of the Washington State Building Code Council,

The Department of Commerce (Commerce) writes in support of the package of proposals voted forward by the Technical Advisory Group (TAG) to include in the 2021 Washington State Energy Code for residential structures. These proposals reflect necessary changes for the 2021 residential energy code to make forward progress in meeting the requirements of RCW 19.27A.160 and put the state on the path towards meeting our greenhouse emissions limits.

These proposals align with the recommendations of the 2021 State Energy Strategy[1] for the building sector, published by Commerce in 2021, as required by law. The analytical framework for the 2021 State Energy Strategy represents a comprehensive assessment of the options for achieving the state's emissions limits. Washington's legislatively mandated emissions limits decrease steeply over the next nine years and eventually require the replacement of virtually all fossil fuels.

The modeling finds that buildings, responsible 23% of the state's current emissions, require a 10-year market transformation approach that combines transitioning from fossil gas to electrification, with deep levels of efficiency for new and existing buildings, and smart building demand management. Therefore, this energy code package of efficiency improvements for new residential buildings represents a critical cornerstone to achieving statutory limits.

The move towards codes which encourage heat pump technologies makes efficiency and lifetime savings sense. A Commerce contracted study conducted by Energy + Environmental Economics Inc. (E3) looked at the financial and systems impacts of fuel switching on consumer-owned utilities (COUs) and their customers[2]. While the focus of this report was on retrofits of existing buildings, this analysis found that all-electric new construction is found to be less expensive than mixed-fuel new construction across a variety of technologies (see Figure 2-5). This modeling finds that electrification of residential new construction is cost-effective across the state, mainly due to lower upfront costs and the potential to avoid the cost of new gas connections.

[1] 2021 State Energy Strategy - Washington State Department of Commerce
[2] Financial Impact of Fuel Conversion on Consumer Owned Utilities and Customers in Washington

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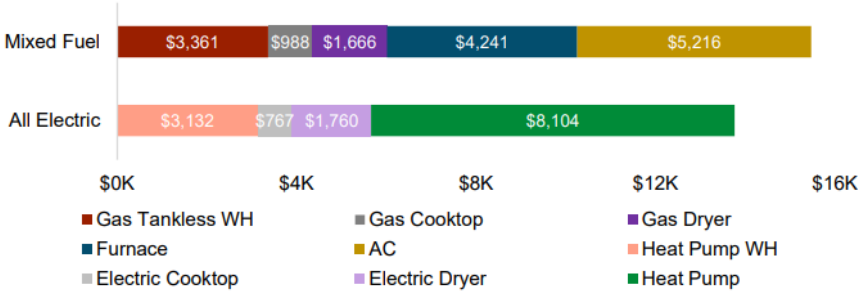
Figure 2-5 Example whole-home capital costs for a single family residential home (new construction, $2021)



Source: Financial Impact of Fuel Conversion on COUs and Customers in Washington by E3, pg. 20

This study finds that all-electric new construction improved building shells and leads to lower annual sales and peak demands compared to retrofits. This results in lower electric system cost impacts, and indicates that the efficiency improvements found in advancing our state's codes yield additional utility and grid benefits.

We support the package of proposals approved by the Energy TAG and put forward by the council for comment. If you have any questions about how this proposed code aligns with the recommendations of the 2021 State Energy Strategy, please do not hesitate to reach out.

Thank you,

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