



March 10, 2022

Subject: Electrification

Dear State Building Code Council Members,

We are asking for your consideration to OPPOSE energy code proposals 21-GP1-103, 21-GP1-136, & 21-GPA-179 and all WSEC electrification proposals within the 2021 code package.

These proposals go well beyond this State Council's duties per RCW 19.27.020 and directly violates Standard #4 which is to eliminate restrictive, obsolete, conflicting, duplicating and unnecessary regulations and requirements which could unnecessarily increase construction costs or retard the use of new materials and methods of installation or provide unwarranted preferential treatment to types or classes of materials or products or methods of construction.

With the understanding that this Council has been given direction to reduce carbon emissions, the RCW does not provide authority to do so given the massive "electrification costs" and preferential treatment carbon emitting equipment. Providing other than minimum performance standards as per Standard #2 also violates the RCW.

Our country has been dealing with an inflation crisis for the last year that has been affecting our energy resources. Now, we are in the midst of a world-wide crisis and potential war which now has eliminated a portion of our energy resources until decisions are possibly made for our nation to become Energy Independent once again. Do we really want to move forward right now our anytime soon with these proposals that would be detrimental to our current energy sources and simply eliminate another energy option and make us one step closer to a sole reliance on one "preferential" source for some people.

Below are four questions that we submitted last fall and never received answers from the Council, so here are answers from the industry to these two questions;

- 1. We are averaging one of the lowest electricity prices in the nation at an estimated \$0.08/kWh base rate. What will our estimated rates be in five-year increments given these proposals go in affect next year? And giving economic consideration to the recent passage of the carbon- pricing bill SB 2156, knowing that California is the only other state with a similar program and currently is double in KWh rates.**

Industry Comments:

There are some trade-offs which must be considered when answering this question. "Green" energy will almost always reflect in higher energy costs to offset the Capital cost of those technologies. It would then be expected that the costs would come down over time. However, this is not reality. As the deployed goals increase, the Capital costs continue to rise, robbing the customers of enjoying the resulting lower cost energy. Further, as the goals increase, the choices to meet those goals become more expensive, because the "best-value" choices were made previously.

California is a good market to study in order to answer this question. They have done three things that have escalated the rates that they charge:

1. All Commercial Accounts transitioned to Time of Use (TOU) accounts
2. Requiring all Commercial Clients to pay Demand (kW) charges
3. Tiered electrical rates for Residential customers (the more you use the higher your rate)

Commercial Rates in California (PGE – their largest Utility Company)

Usage (kWh) = \$0.178/kWh Demand  
 (kW)= \$22.50/kW

So as a Comparison (using 1,000 kW for 8 hours):

Spokane cost and similar for other Washington State cities for 1,000 kW for 8 hours would be:  
 (1,000 kW)x(8 hours)x(\$0.08/kWh) = \$640

For California:

(1,000 kW)x(8 hours)x(\$0.178/kWh) = \$1,424

Plus there would be a monthly Demand charge of (1,000 kW)x(\$22.50.kWh) = \$2,500 The cost

of electricity in California has been increasing at 6.2% per year.

If we assumed that the same would happen here, we could estimate that cities would trend towards California costs over the next 15 years or less, and then continue at 6.2% annually

Year	CA Rate kWh	Spokane Rate kWh
2021	\$0.178	\$0.10
2026	\$0.240	\$0.18
2031	\$0.325	\$0.30
2036	\$0.439	\$0.40
2041	\$0.593	\$0.55

2. **What is the estimated cost for all existing commercial building owners that provide millions of square feet to all types of businesses, should they have to retrofit their heat sources into renewables? And do you foresee all of these costs being passed on to the consumer therefore increasing cost for all services?**

Industry Comments:

1. The Washington State Building Code Council estimates a net present value capital cost of \$0.24/sq foot.
2. The cost of a 4-ton Heat Pump is ranges from \$3,200 (14 SEER) up to \$5,200 (18.5 SEER)  
 The cost of a 4-ton standard AC system (with natural gas heat) is about \$1,860  
 (Neither are installed prices – Installation would add approximately \$1,500-\$4600.00 in labor costs)  
**\*We must consider these figures most likely as below current prices with the shortage of labor and demand crisis inflating daily**

If we use the basis of 50,000 square feet of commercial property, we would estimate 100 tons of installed HVAC.

Replacing an existing AC Unit with a Heat Pump would have a capital cost of:

$(100\text{tons}) \times (\$1,175/\text{ton}) = \$117,500$

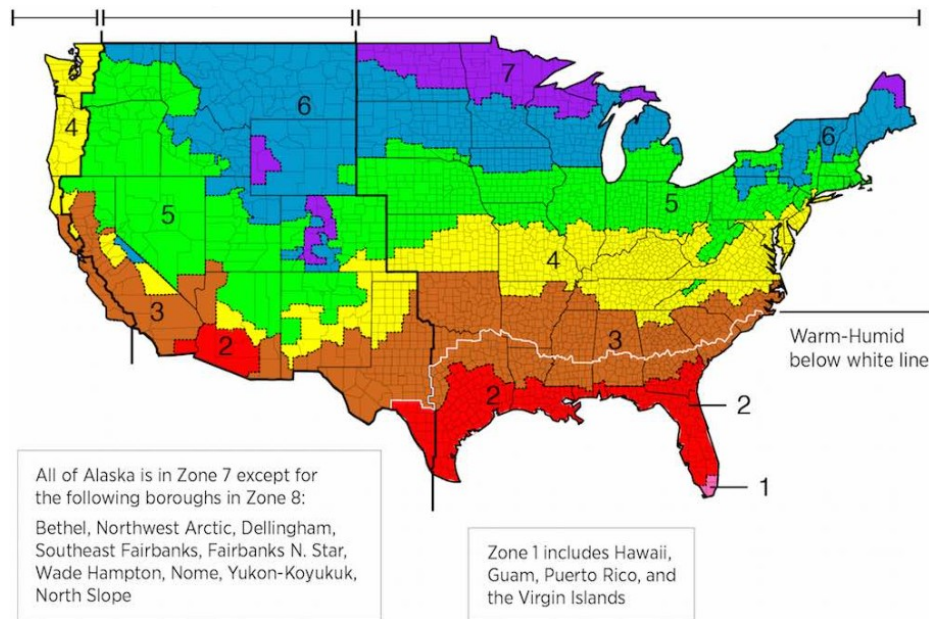
A business owner with a 50,000 square foot property would incur the cost of roughly \$117,500.

However, there are other factors to consider. **\*Additional industry comments considered these rough costs too low after their heat loss calculations and could easily soar upward into the million dollar levels.**

The HVAC Industry establishes “Heat Zones” across the USA for selecting technology. From the table below, it’s shown that Heat Pumps are good choices for Climate Zones 1-4 and Gas Furnaces are good choices for Climate Zones 4-7.

System	Heats with(1)	AC(2)	Cost/BTUs(3)	Climate Zones(4)	Ave Cost Installed
Heat Pump	1, 3 (optional)	Yes	\$7-\$10	1 to 4	\$6,700
Gas Furnace	2	No	\$11-\$14	4 to 7	\$3,175
Electric Furnace	3	No	\$31-\$34	1 & 2	\$2,350
Dual Fuel	1, 2, 3 (optional)	Yes	\$8-\$12	6 & 7	\$7,200

Washington State is covered by Climate Zones 4, 5, and 6. Spokane is in Climate Zone 5. Since Heat Pumps are primarily recommended for Climate Zones 1-4, they are not necessarily a good technology selection for Washington State, and certainly not for eastern Washington.



A better alternative to banning Natural Gas would be to convert to Bio-Natural Gas, often called RNG (Renewable Natural Gas). This would eliminate the required capital expenditure, and greatly reduce the GHG emissions. And as a “Renewable” RNG, it is NOT a fossil fuel.

If the Commercial Property Owners were required to move to Heat Pumps. It would be reasonable to

assume that Commercial Property Owners would pass those costs on to their customers and clients.

**3. Is there enough electricity on the grid, and given current CETA mandates, to fully remove natural gas appliances from Washington State and not forecast ongoing outages?**

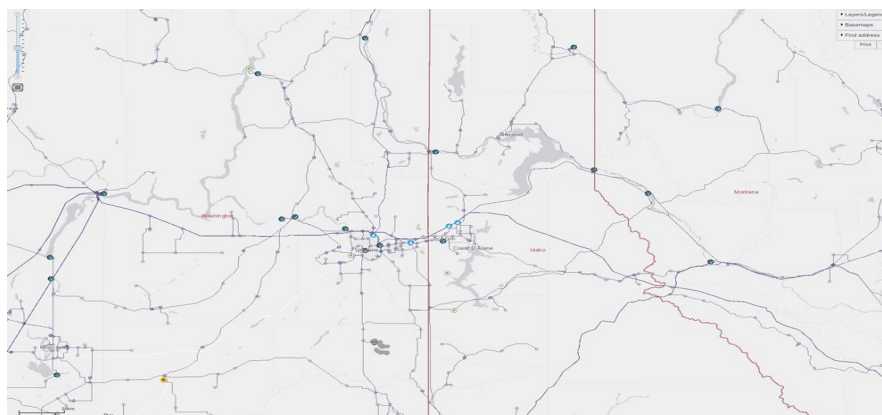
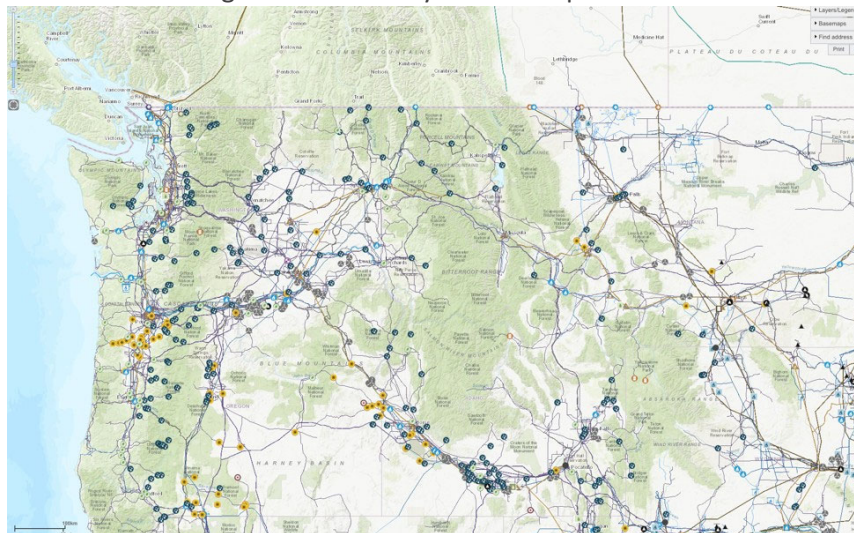
Industry Comments:

The Washington Electrical Grid should have the capacity to deliver the additional electricity throughout the state. However, the State would likely need to import out-of-state power to cover that need. As a result, if no other changes are made, the power make-up will actually become “less green,” as the imported power will not be from zero emission sources. So the imported power would “dilute” the green benefit from such things as Hydro power.

The sustainability goals would need to be reconciled with the importation of dirtier electricity.

Disruptions in power could become a concern based on the source of the generated power. As more utilities and municipalities move towards cleaner solutions like Wind and Solar, there will be a risk of supply stability. The Grid stability will rely heavily on the State’s ability to store power generated from daytime solar for use in the evening and night hours.

Natural Gas, RNG, and Gasification technologies have much fewer interruptions than renewable electricity. Below is a diagram of the Washington State Grid System and Spokane Grid.



- 4. If there is not enough foreseeable electricity without natural gas usage, will scheduled outages become the daily norm, and will these schedules adhere to less outages for regions that incur drastic hot and cold temperatures when compared to other milder regions where an outage will not as much affect their life-safety needs?**

Industry Comments:

While the infrastructure of the grid can handle more electricity, the generation of power which is sent onto that grid is a separate question.

If natural gas was reduced or eliminated too quickly, and replaced with electricity, it is very likely that there would be electrical service impacts if the strategy was to continue to feed the grid with zero emission power. In order to increase electrical power quickly to offset the use of natural gas without service interruptions, ironically, there would likely need to be additional electrical production from Natural Gas powered Gen-Sets outside of the State.

In order to prevent the service outages, there would need to be several factors that come into play:

1. The rate of new renewable power generation (Solar, Wind, Gasification) would need to be at the same (or faster) pace than the decreased use of natural gas.
2. Significant Power Storage would need to be installed into the grid to offset the previous natural gas power that would be used in the evenings and nights. There would essentially need to be a network of storage (“electrical flywheels”) that would allow the daytime production of power to be used during the non-sunlight hours.
3. RNG (Renewable Natural Gas) production would need to be increased dramatically in order to replace natural gas, or to support the transition from natural gas.

The data suggests that natural gas is a more stable source of energy than electricity. If there is truly the need to eliminate the GHG impact from fossil-fuel natural gas, then an agricultural RNG Bio-gas (non-fossil fuel) should be utilized into the existing gas infrastructure.

Please do not take action on the 2021 WSEC Proposals. We need to preserve any and all of our energy resources in this horrifying humanitarian and economic time for our state, nation, and world allies. We do not know what tomorrow or even next year will bring.

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