Advocates for the West
Affiliated Tribes of Northwest Indians
AirWorks, Inc.
Alaska Housing Finance Corporation
Alliance to Save Energy
Alternative Energy Resources Organization
American Rivers
A World Institute for a Sustainable Humanity
Beneficial State Bank
BlueGreen Alliance
Bonneville Environmental Foundation
Centerstone
Citizens' Utility Board of Oregon
City of Ashland
City of Seattle Office of Sustainability & Environment
Clean Energy Works Oregon
Climate Solutions
Community Action Center
Community Action Partnership Assoc. of Idaho
Community Action Partnership of Oregon
David Suzuki Foundation
Earth and Spirit Council
Earth Ministry
Ecova
eFormative Options
Emerald People's Utility District
EnergySavvy
Energy Trust of Oregon
Environment Oregon
Environment Washington
HEAT Oregon
Home Performance Guild of Oregon
Home Performance Washington
Housing and Comm. Services Agency of Lane Co.
Human Resources Council, District XI
Idaho Clean Energy Association
Idaho Conservation League
Idaho Rivers United
Interfaith Network for Earth Concerns
League of Women Voters Idaho
League of Women Voters Oregon
League of Women Voters Washington
Montana Audubon
Montana Environmental Information Center
Montana Renewable Energy Association
Montana River Action
National Center for Appropriate Technology
Natural Resources Defense Council
New Buildings Institute
Northern Plains Resource Council
Northwest Energy Efficiency Council
NW Natural
NW SEED
OneEnergy Renewables
Opower
Opportunities Industrialization Center of WA
Opportunity Council
Oregon Energy Coordinators Association
Oregon Environmental Council
Oregonians for Renewable Energy Policy
Pacific Energy Innovation Association
Pacific NW Regional Council of Carpenters
Physicians for Social Responsibility of Oregon
Physicians for Social Responsibility of Washington
Portland General Electric
Puget Sound Advocates for Retired Action
Puget Sound Cooperative Credit Union
Puget Sound Energy
Renewable Northwest Project
Save Our wild Salmon
Sea Breeze Power Corp.
Seattle City Light
Seinergy
Shoreline Community College
Sierra Club
Sierra Club, Idaho Chapter
Sierra Club, Montana Chapter
Sierra Club, Washington Chapter
Smart Grid Northwest
Snake River Alliance
Solar Installers of Washington
Solar Oregon
Solar Washington
South Central Community Action Partnership
Southeast Idaho Community Action Partners
Spokane Neighborhood Action Partners
Student Advocates for Valuing the Environment
Sustainable Connections
The Climate Trust
The Energy Project
The Policy Institute
Trout Unlimited
Union Of Concerned Scientists
United Steelworkers of America, District 12
US Green Building Council, Idaho Chapter
Washington Environmental Council
Washington Local Energy Alliance
Washington State Department of Commerce
Washington State University Energy Program
YMCA Earth Service Corps

NW Energy Coalition
for a clean and affordable energy future

October 8, 2015

Dave Kokot, Chair
Washington State Building Code Council
Olympia, WA 98507
sbcc@ga.wa.gov

Dear Chair Kokot,

On behalf of the NW Energy Coalition, I am submitting comments in strong support of the 2015 Washington State Energy Code Proposals.

The NW Energy Coalition is an alliance of more than 100 Pacific Northwest environmental, civic, and human service organizations, progressive utilities and businesses working for clean and affordable energy. For nearly 35 years we've advocated for clean and affordable energy, with energy efficiency as our highest priority.

Because increased energy efficiency remains the cleanest and cheapest way to meet our state's building energy needs, the NW Energy Coalition urges you and your colleagues to adopt the package of proposed energy code amendments currently before the Council. The major proposals represent real progress in improving building energy efficiency. The quality of the proposals and the supporting documentation is a testament to the Council's improved process and the many, many hours spent by the Energy Code TAG, which is much appreciated.

Since 1980, energy efficiency has met more than half of the region's electricity demand growth. The Northwest Power and Conservation Council estimates that effective energy codes are responsible for at least 20% of those savings.

Thanks to increased energy efficiency, Washington residents, businesses, industry, schools, local governments and hospitals pay at least $2 billion *per year* less for electricity (data aren't available for natural gas cost savings) than they would have without the energy efficiency investments. The code plays a critical role in reducing our state's carbon emissions: the independent report produced for the Climate Legislative and Executive Workgroup (per SB 5802, 2013) projects that of all the state's existing policies, the energy code will produce the greatest long-term reduction in carbon emissions.[1]

We are forgunate to be in Washington where – through the combined efforts of the governor, legislature, utilities, businesses and public-interest groups – we have made our buildings so much more energy efficient, comfortable and affordable to operate while reducing climate pollution at the same time. We extend our genuine appreciation to the State Building Code Council for contributing to these tangible and important accomplishments.

[1] http://www.governor.wa.gov/sites/default/files/documents/Leidos_Task1_pt2_20131011.pdf

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www.nwenergy.org • nwec@nwenergy.org

Recognizing that most of the proposed energy code amendments are technical corrections and clarifications, we will limit the remainder of our comments to the key proposals that contribute to meeting the legislatively mandated energy and greenhouse gas reduction targets, namely:

> *Residential and nonresidential construction permitted under the 2031 state energy code must achieve a 70 percent reduction in annual net energy consumption (compared to the 2006 state energy code) (RCW 19.27A.160)*
>
> *Construct increasingly efficient homes and buildings that help achieve the broader goal of building zero fossil-fuel greenhouse gas emission homes and buildings by the year 2031 (RCW 19.27A.020)*

Proposal 15-E009

For electrically heated homes (single family, duplexes and townhomes) this measure requires ductless heat pumps (DHPs) in the primary living area while allowing resistance heat in isolated rooms such as bathrooms. This is a cost-effective and commonsense proposal. The numbers speak for themselves: According to the 2015 case study conducted by WSU Energy Extension and Tacoma Power, using a ductless heat pump cuts heating energy by 50% compared to electric resistance baseboards or wall heaters. The study also shows that the consumer realized positive cash flow in 2.5 years. Per-household savings are projected at 2,800 kWh per year, with lifecycle benefits of $5,500 in 2015 dollars. With such energy savings, new homes will be more affordable for the families that live in them.

Some homebuilders have raised concerns that the WSU/Tacoma study understates the cost of DHPs. In fact, DHP costs have consistently declined since they entered the Pacific Northwest nearly a decade ago, and this trend gives every indication of continuing. Whether the average incremental cost per home of DHPs is $2,000 or $4,000, the amount represents 1% or less of the cost of a new home and thus poses no real barrier to financing or to purchase decisions. It's important to note that the energy code levels the playing field for builders – all face the same costs at the same time, even costs as small as these.

Finally, it is worth noting that the WSU/Tacoma study does not capture all the real benefits of ductless heat pumps, benefits that modern homeowners value. For example, not only is operating the cooling function more affordable than using a portable air-conditioning unit, it is quieter, more evenly distributed and more comfortable for occupants. And ductless heat pumps provide air filtration and dehumidification, resulting in far cleaner indoor air for families.

Proposal 15-E012

This proposal changes Section R406 to increase the required additional efficiency credits by two (homes built with ductless heat pumps as their primary heat source would get one credit toward the two.) It also adds low-rise multi-family buildings to the scope of the rule, an especially important change given the existing gap in the energy code and the fact that multifamily buildings comprise an increasing percentage of new residential construction.

This code change is supported by extensive documentation on measure costs and energy savings. It makes substantial efficiency gains across the residential sector, reducing overall energy use by about 12%.

Increasing these mandatory credits for residential construction ensures that the energy code remains on track for meeting its 2031 target. Designers, contractors and owner-builders may choose from several readily available products and construction techniques.

Proposal 15-E029

This proposal requires concrete masonry unit (CMU) walls to be insulated. The current code exempts CMU block walls from the insulation requirement if 50% of the cells are filled with perlite, i.e., an R-3 wall. Such a wall loses five times as much heat as what's allowed for any other wall types. Washington is only one of two northern-climate states that still allow this exception.

Eliminating this special exception for one building material type is long overdue. The change will save energy cost-effectively and ensure that our state building codes are equitable and favor no one industry over another; CMU walls should have no advantage over wood, precast and metal stud construction. In the past, the industry has claimed that masonry walls would not be cost competitive under increased insulation requirements. Yet masonry walls are still being built in Seattle even though Seattle's energy code has never exempted CMU walls.

It's important to recall that, as part of the 2013 energy code rule-making, the SBCC stated on the record that the masonry wall industry could not expect to retain this special energy code exception.

Proposals E15-E066, 69 and 70

These proposals – known as the dedicated outdoor air system (DOAS) proposals – represent real energy savings and will greatly reduce building owners' energy costs. Current ventilation techniques (large fans in rooftop heating and cooling equipment) increase energy costs and do not necessarily provide fresh air to all areas of the building. Under this proposed change, smaller fans will be used. Air will be ducted to designated areas of the building, resulting in improved ventilation-distribution effectiveness and increased comfort for building occupants.

Cost and energy savings data accompanying this proposal demonstrate that the cost effectiveness and energy savings are well-founded. Additional testimony from developers and engineers show that significant numbers of DOAS projects have been built in Seattle and Tacoma as well as in Portland – in other words, DOAS are a proven building strategy in our region.

Taken together, these proposals constitute a major step forward in building the next generation of energy efficient commercial buildings. Although the SBCC will likely hear some opposition to the proposals despite their cost effectiveness and energy savings, we would call your attention to comments submitted by Jonathan Heller, P.E., in July:[2]

[2] Response to Minority Report on Proposed State Amendment 15-E070 to the International Energy Conservation Code Section 403.2.6.1 Dedicated Outdoor Air Systems (DOAS) Prepared by Jonathan Heller, P.E. July 27, 2015

> " . . .ASHRAE has been publishing research about DOAS for at least 20 years showing the advantages of this approach of separating the ventilation air from the heating and cooling system. A technical feature article in the July 2014 ASHRAE Journal provided a literature review of DOAS research mostly sponsored by ASHRAE showing the benefits of diverse DOAS designs compared to basic VAV systems including:
>
> - Easier to provide proper ventilation
> - Decreased energy use and demand
> - Enhanced indoor air quality"

Proposal 15-E114

This proposal brings LED lighting into the code and, per the accompanying energy savings calculations, represents a major energy-savings opportunity: a 15-30% reduction in lighting power, depending on the occupancy type. Current cost effectiveness calculations are good and will get even better as the cost of high-efficiency LED lighting continues to fall even as quality rises.

Proposal 15-E126

This proposal requires new commercial buildings to incorporate two efficiency options from a list of nine, providing flexibility for builders while increasing efficiency. Each option provides about a 3% reduction in total building energy use.

Conclusion

We encourage the members of the Code Council to vote "yes" on all these worthy proposals aimed at keeping Washington on-track to meeting its energy targets.

Historically, a key objection to advancing the energy code is the contention that requiring increased energy efficiency will make new homes more costly and thus unaffordable for many Washingtonians, leading to a building industry slowdown. We anticipate that the same objections will be made this code cycle. However, a 2015 study addressing the same objection to California's energy code (Title 24) concludes otherwise:

> After a careful examination of several indices of construction costs and data on home prices, the UCLA Anderson Forecast came to two conclusions.
>
> (1) *We find that construction cost growth is only marginally associated with home value growth . . . We cannot find evidence that structure (construction) cost increase will cause higher home prices in either coastal or inland California*.
>
> (2) *We find . . . construction costs are highly correlated to the national cost of inputs. We cannot find statistically significant evidence that*

> *California's energy efficiency code Title 24 is associated with home construction costs . . .*

The report, prepared by the California Statewide Utility Codes and Standards Program and funded under the auspices of the California Public Utilities Commission, is attached for your consideration.

Thank you for your consideration.

Sincerely,

Nancy Hirsh
Executive Director

cc: All SBCC members
Keith Phillips, Governor's Office
Tim Nogler, Managing Director, SBCC
Tony Usibelli, Department of Commerce, Energy Policy Division