



STATE OF WASHINGTON

STATE BUILDING CODE COUNCIL

EO128-2018 REV
Second Proponent
Revision 8/01/18

2018 Washington State Energy Code Development Energy Code Proposal Short Form

For editorial **Coordination, Clarifications & Corrections** only,
without substantive energy or cost impacts

Code being amended: [Commercial](#) Provisions [Residential](#) Provisions
(A MS Word version of the code is linked to the name)

Code Section # C406.10 High Performance Dedicated Outdoor Air Systems

Brief Description:

Adds another optional measure including for buildings already required to have DOAS.

Proposed code change text: (Copy the existing text from the Integrated Draft, linked above, and then use underline for new text and ~~strikeout~~ for text to be deleted.)

C406.10 High Performance Dedicated outdoor air system (DOAS). ~~For b~~Buildings which include DOAS complying with Section C403.3.5 or C406.6 ~~with~~ shall also provide minimum sensible effectiveness of heat recovery of 80% and DOAS total combined fan power less than 0.5 W/CFM of outside air. For the purposes of this section, total combined fan power includes all supply, exhaust, recirculation and other fans utilized for the purpose of ventilation.

Purpose of code change:

Provide pathway to C406 compliance for buildings already required to have DOAS. Provide an optional high performance DOAS pathway.

Your amendment must meet one of the following criteria. Select at least one:

- Addresses a critical life/safety need.
- Consistency with state or federal regulations.
- Addresses a specific state policy or statute.
(Note that energy conservation is a state policy)
- Addresses a unique character of the state.
- Corrects errors and omissions.

Check the building types that would be impacted by your code change:

- Single family/duplex/townhome
- Multi-family 4 + stories
- Institutional
- Multi-family 1 – 3 stories
- Commercial / Retail
- Industrial

Other contact name Morgan Heater
Email address jonathan@ecotope.com
Phone number 206-596-4704

Your name Jonathan Heller
Your organization Ecotope

Instructions: Send this form as an email attachment, along with any other documentation available, to: sbcc@ga.wa.gov. For further information, call the State Building Code Council at 360-407-9280. **Deadline for all 2015 code change proposals is March 1, 2015 at 11:59 PM.**

Economic Impact Data Sheet

Briefly summarize your proposal's primary economic impacts and benefits to building owners, tenants and businesses.

Provides for C406 optional credit for buildings employing High Performance DOAS equipment.

Provide your best estimate of the construction cost (or cost savings) of your code change proposal?

\$0.50/square foot

Increases cost of heat recovery ventilation equipment \$2/CFM (from \$7/CFM to \$9/CFM).

Typical Office ventilation rate is ~0.25CFM/SF.

Provide your best estimate of the annual energy savings (or additional energy use) for your code change proposal?

1.3KWH/ square foot /yr

Base DOAS uses 1W/CFM at 60% Thermal Effectiveness

Proposed DOAS uses 0.5W/CFM at 80% Thermal Effectiveness

Assume balance point of building at 60F. 1440Degree-Days between 6AM-6PM (Seattle).

Fan Energy Savings: $0.5W/CFM * 0.25CFM/SF * 4380hrs/yr = 0.55KWH/SF/yr$

Thermal Energy Savings: $0.25CFM/SF * 0.24Btu/lbF * 0.075lb/CF * 0.0167hr/min * 1440DD * 24hr/Day * 0.293KWH/Btu = 0.76KWH/SF/yr$

Total Energy Savings = 1.3KWH/SF/yr

List any code enforcement time for additional plan review or inspections that your proposal will require, in hours per permit application:

10 Minutes

Verify thermal and fan energy performance at design conditions with product submittal data.