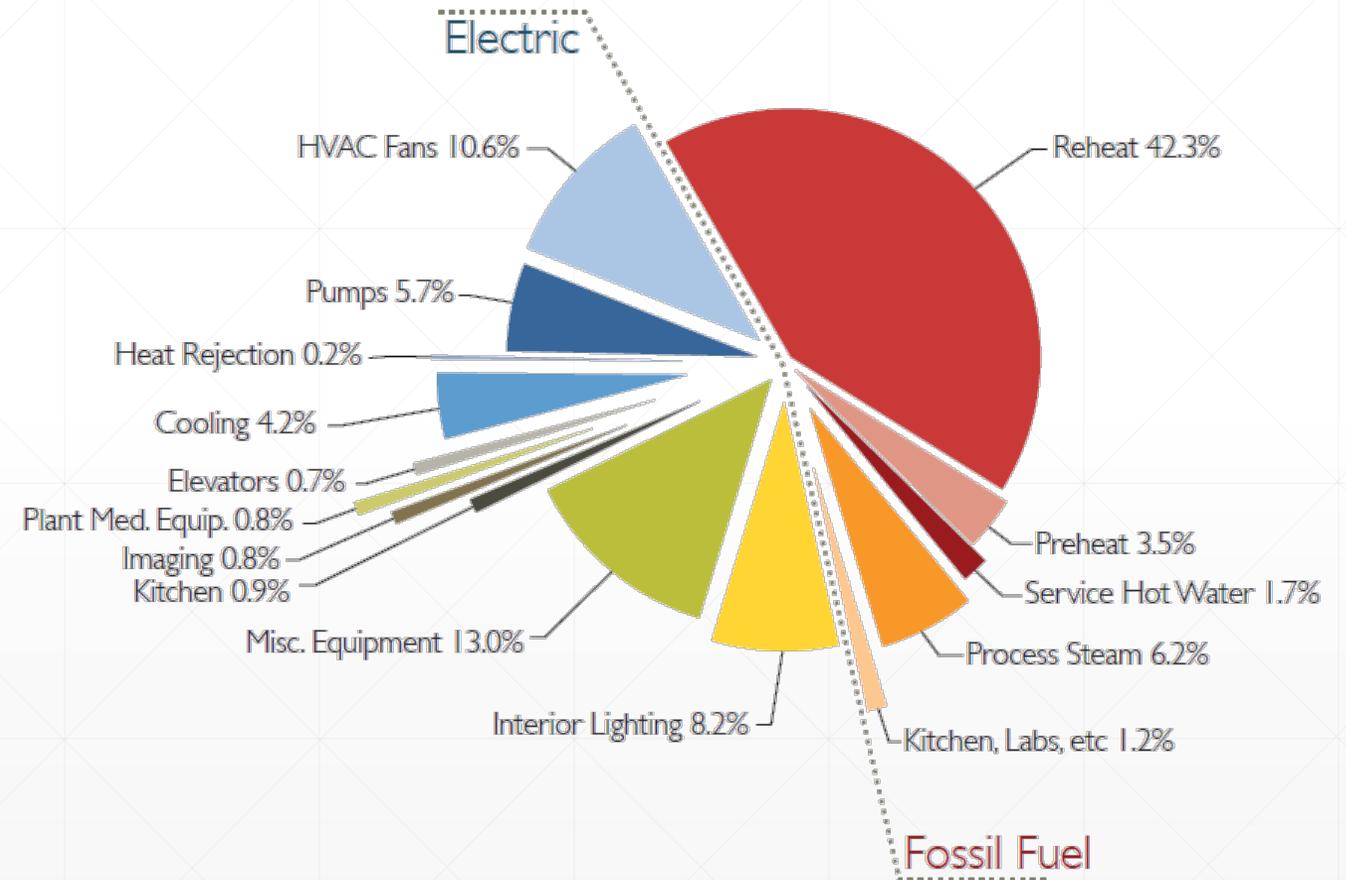


Top 5 Energy Uses In Hospitals

1. Reheat (HVAC)
2. Misc. Equipment
3. HVAC Fans (HVAC)
4. Interior Lighting
5. Process Steam
6. Pumps (HVAC)
7. Cooling (HVAC)



Source

Hatten, M. et al. 2011. *Targeting 100!: Energy Use and Model Calibration Study: Legacy Salmon Creek Medical Center Vancouver, Washington*. University of Washington's Integrated Design Lab.

Alternative for Consideration: Omission of Return Air Variable-Air-Volume (VAV) controls in appropriate zones

Alternate Means

Allow spaces where pressure is not regulated by Table 4A to employ variable-air-volume (VAV) controls, without added return air devices.

Applicable Code Sections

CMC 407.5.1.2, 407.5.1.3, 407.4.1.3 (by interpretation)

What it would allow

Allow spaces where pressure is not regulated by Table 4A to employ variable-air-volume (VAV) controls, without added return air devices.

Targeted Energy Reduction

Re-heat, Fan, Cooling

Alternative for Consideration: Adoption of room parameters from 2013 ASHRAE-170

Alternate Means	<p>Allow lower minimums from ASHRAE-170 (2013) in waiting, corridors, and patient rooms.</p> <p>Allow use of ASHRAE-62 in admin, cafeteria, general exhausted areas.</p>
Applicable Code Sections	CMC 407.1, 407.3, 407.4 (selected spaces); Table 4-A
What it would allow	Reduced minimum air-flows in areas where VAV is already installed per CMC.; Use of ASHRAE-62 in non-hospital specific areas;
Targeted Energy Reduction	Re-heat, Fan, Cooling

Alternative for Consideration: Performance-Based Ventilation (ASHRAE-62 Indoor Air Quality Procedures) in selected locations

Alternate Means

For selected spaces (non-critical spaces), use alternate minimum ventilation based on an indoor air quality procedure (ASHRAE-62).

Validate indoor air quality via environmental measurement.

Applicable Code Sections

CMC 407.5.1.2, 407.5.1.3, 407.4.1.3 (by interpretation); 407.1, 407.3, 407.4 (selected spaces); Table 4-A

What it would allow

Broader adoption of VAV; Lower air outdoor air or total air minimums; Broader shut down or turn down hours; Facilities with operable windows could use them in lieu of HVAC, when permitted

Targeted Energy Reduction

Re-heat, Fan, Cooling

Alternative for Consideration:

Risk-Based Ventilation in selected locations

Alternate Means

Local risk-management team to determine ventilation parameters based on a risk-assessment and mitigation approach, similar to ASHRAE-188 (Legionella/Water Quality).

Applicable Code Sections

CMC 407.5.1.2, 407.5.1.3, 407.4.1.3 (by interpretation); 407.1, 407.3, 407.4 (selected spaces); Table 4-A

What it would allow

Broader adoption of VAV; Lower air outside air or total air minimums; Broader shut down or turn down hours; Facilities with operable windows could use them in lieu of HVAC, when permitted

Targeted Energy Reduction

Re-heat, Fan, Cooling

Alternative for Consideration:

International Alternate Ventilation Rates

Alternate Means

Allow adoption of ventilation minimums from an established non-US Code such as the UK Code (HTM-03-01) or German Code (DIN-1946).

Applicable Code Sections

CMC 407.5.1.2, 407.5.1.3, 407.4.1.3 (by interpretation); 407.1, 407.3, 407.4; Table 4-A

What it would allow

Broader adoption of VAV; Lower air outdoor air or total air minimums; Broader shut down or turn down hours; Facilities with operable windows could use them in lieu of HVAC, when permitted

Targeted Energy Reduction

Re-heat, Fan, Cooling