



US. GREEN BUILDING COUNCIL LEED V4.1

Optimize Energy Performance

Section	Well Intent	Bubblynet Contribution	Max Points	
Option 1	Points for percentage improvement in energy performance – % Cost PCI	Air Purifier, BACnet Gateway, occupancy sensor, daylight sensor & shade controller.	Up to 12	
	ID+C			Points
	2%			2
	5%			3
	8%			4
	12%			5
	15%			6
	18%			7
	21%			8
	24%			9
	27%			10
	30%			11
	33%			12
36%	EP			

Advanced Energy Metering

Section	Well Intent	Bubblynet contribution	Max points
Option 2	Install new or use existing tenant-level energy meters to provide tenant-level data representing total tenant energy consumption (electricity, natural gas, chilled water, steam, fuel oil, propane, biomass, etc.). Utility-owned meters are acceptable.	Gateway with energy metering over lighting fixture.	2

Enhanced Indoor Air Quality

Section	Well Intent	Bubblynet Contribution	Max Points
Option 2	Carbon Dioxide Monitoring Monitor CO2 concentrations within all densely occupied spaces. CO2 monitors must be between 3 and 6 feet (900 and 1 800 millimeters) above the floor. CO2 monitors must have an audible or visual indicator or alert the building automation system if the sensed CO2 concentration exceeds the setpoint by more than 10%. Calculate appropriate CO2 setpoints using methods in ASHRAE 62.1– 2016, Appendix D.	CO2 sensor wall mounted and Touchscreen	2

Indoor Air Quality Assessment

Section	Well Intent	Bubblynet Contribution	Max Points														
Option 2	<table border="1"> <thead> <tr> <th style="background-color: #cccccc;">Contaminant (CAS#)</th> <th style="background-color: #cccccc;">Concentration Limit (µg/m³)</th> <th style="background-color: #cccccc;">Allowed Test Methods</th> </tr> </thead> <tbody> <tr> <td>Carbon monoxide (CO)</td> <td>9 ppm; no more than 2 ppm above outdoor levels</td> <td>ISO 4224 EPA Compendium Method IP-3 GB/T 18883-2002 for projects in China Direct calibrated electrochemical instrument with accuracy of (+/- 2% ppm <50 ppm minimum accuracy).</td> </tr> <tr> <td>PM 10</td> <td>ISO 14644-1:2015, cleanroom class of 8 or lower 50 µg/m³</td> <td rowspan="2">Particulate monitoring device with accuracy greater of 5 micrograms/m³ or 20% of reading and resolution (5 min average data) +/- 5 µg/m3</td> </tr> <tr> <td>PM 2.5</td> <td>12 µg/m³ or 35 µg/m³**</td> </tr> <tr> <td>Ozone</td> <td>0.07 ppm</td> <td>Monitoring device with accuracy greater of 5 ppb or 20% of reading and resolution (5 min average data) +/- 5 ppb ISO 13964 ASTM D5149 — 02 EPA designated methods for Ozone</td> </tr> </tbody> </table>	Contaminant (CAS#)	Concentration Limit (µg/m³)	Allowed Test Methods	Carbon monoxide (CO)	9 ppm; no more than 2 ppm above outdoor levels	ISO 4224 EPA Compendium Method IP-3 GB/T 18883-2002 for projects in China Direct calibrated electrochemical instrument with accuracy of (+/- 2% ppm <50 ppm minimum accuracy).	PM 10	ISO 14644-1:2015, cleanroom class of 8 or lower 50 µg/m³	Particulate monitoring device with accuracy greater of 5 micrograms/m³ or 20% of reading and resolution (5 min average data) +/- 5 µg/m3	PM 2.5	12 µg/m³ or 35 µg/m³**	Ozone	0.07 ppm	Monitoring device with accuracy greater of 5 ppb or 20% of reading and resolution (5 min average data) +/- 5 ppb ISO 13964 ASTM D5149 — 02 EPA designated methods for Ozone	Air quality sensor with touchscreen	2
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Thermal Comfort

Section	Well Intent	Bubblynet Contribution	Max Points
Option 2	Provide individual thermal comfort controls for at least 50% of individual occupant spaces. Provide group thermal comfort controls for all shared multioccupant spaces. Thermal comfort controls allow occupants, whether in individual spaces or shared multioccupant spaces, to adjust at least one of the following in their local environment: air temperature, radiant temperature, air speed, and humidity.	BACnet Gateway with touchscreen	2

Daylight

Section	Well Intent	Bubblynet Contribution	Max Points
Option 2	<p>Perform computer simulations for illuminance at 9 a.m. and 3 p.m. on a clear-sky day at the equinox for each regularly occupied space. Demonstrate illuminance levels are between 300 lux and 3,000 lux at both 9 a.m. and 3 p.m. Spaces with view-preserving automatic (with manual override) glare-control devices may demonstrate compliance for only the minimum 300 lux illuminance level.</p>	BubblyNet light controls with astronomical clock	3

Interior lighting

Section	Well Intent	Bubblynet Contribution	Max Points
Option 1	<p>For at least 90% of individual occupant spaces, provide individual lighting controls that enable occupants to adjust the lighting to suit their individual tasks and preferences, with at least three lighting levels or scenes (on, off, midlevel). Midlevel is 30% to 70% of the maximum illumination level (not including daylight contributions).</p> <p>For all shared multioccupant spaces, meet all of the following requirements. Have in place multizone control systems that enable occupants to adjust the lighting to meet group needs and preferences, with at least three lighting levels or scenes (on, off, midlevel). Lighting for any presentation or projection wall must be separately controlled. Switches or manual controls must be located in the same space as the controlled luminaires. A person operating the controls must have a direct line of sight to the controlled luminaires.</p>	BubblyNet light controls	1

Acoustic Performance

Section	Well Intent	Bubblynet Contribution	Max Points
Sound Transmission	<p>The sound masking system must be designed by an acoustical professional and meet the following criteria: The overall level for sound masking must be set by an acoustical professional and must not exceed 48 dBA in open offices, libraries, cafeterias, corridors/ hallways, 45 dBA in enclosed offices, and 42 dBA in conference rooms, and wellness rooms. The combined level of masking and HVAC background noise must not exceed these limits. The system design and commissioning must provide overall level uniformity of +/-1 dBA and one- third octave band uniformity of +/-2 dB from at least 100 to 5,000 Hz when tested according to ASTM E1573-18</p> <p>The sound masking spectrum must conform to the National Research Council of Canada COPE Optimum Masking Spectrum or an alternate spectrum if specified by an acoustical engineer.</p>	Sound masking with ceiling speakers	2